Introduction to Accounting for Students of Economics

By

C. A. ASHLEY

Professor of Accounting
University of Toronto

THE UNIVERSITY OF TORONTO PRESS
TORONTO, CANADA
1942

LONDON:
HUMPHREY MILFORD
OXFORD UNIVERSITY PRESS

PRINTED IN CANADA

ACKNOWLEDGMENTS

FEW books have been written which attempt to bring together the ideas of Economists and Accountants. I have been stimulated by J. B. Canning, *The Economics of Accountancy* (New York, 1929); D. R. Scott, *The Cultural Significance of Accounts* (New York, 1931); N. S. Buchanan, *The Economics of Corporate Enterprise* (New York, 1940); and R. F. Fowler, *The Depreciation of Capital* (London, 1934). I owe a more immediate debt to Professor R. G. H. Smails and Mr. F. H. Buck, who read the manuscript of this book and made many useful criticisms and suggestions. Professor W. S. Ferguson, Professor N. E. Sheppard, Mr. C. E. Higginbottom, and Mr. R. R. Grant have also given me helpful counsel.

C. A. ASHLEY

The University of Toronto.

TABLE OF CONTENTS

CHAPTER I

THE purpose of this book is to present as concisely as is compatible with understanding the methods and conventions used by accountants; with some discussion of their limitations from the point of view of the economist.

Accounting is the application of a technique for recording and interpreting commercial transactions. If the statements prepared by accountants are to be used by economists, some understanding of that technique by the latter is desirable. These statements are sometimes used in statistical studies by economists who have mastered the technique of the interpretation of statistics, but not that of accounting; and economists may speak of such things as profits, capital, and depreciation, without knowing exactly what the accountant and the business man mean by them. Accounting must necessarily supply a great deal of the material for the study of banking, credit, public finance, the capital market, and social control, which are matters of great interest to economists.

Although some accounting statements deal with quantities of goods, the majority are expressed in terms of money, for only in this way can heterogeneous materials be brought together and the results of complicated transactions in all the

factors of production be expressed in simple form. During the period in which accounting came to occupy its present important position, the value of money changed slowly, but in recent times more rapid fluctuations have occurred. No satisfactory technique has yet been established in ordinary accounting procedure to deal with these rapid changes, which may be of importance for short periods from time to time; the economist must make what adjustments he deems necessary when making use of accounting statements for such periods.

The necessity for the keeping of accounts and for their interpretation has increased with the increased complication of business organization; the following headings and notes give some idea of the reasons why accounting has become more and more important.

Agency

The appointment of a steward to control an estate or a household required that the steward should render an account to his lord. The appointment of agents for commercial purposes is now widespread, and they have control over goods and money, and the responsibility for collection and payment of debts. They may operate at a great distance from their principals, who exercise their control largely through the accounts rendered to them.

Partnership

Joint ventures and joint ownership involve the separation of private affairs and personal transactions from those carried on in common. The sharing of profits and losses, and the ultimate dissolution of the partnership require the keeping of accounts.

Limited Companies

The subscription by shareholders of funds placed under the management of directors is the development of a combination of some of the features of both agency and partnership. The progressive divorce between ownership and management has increased the importance of accounts. The introduction of limited liability has drawn the attention of creditors away from the personal fortunes of the owners to the current operations of the business, revealed in accounting statements.

Bank Credit

The increase in the size of business units has made individual credits of great concern to banks, while the development of branch banking has led to the concentration of the control of large credits at head offices. The direct and intimate relations between the local bank manager and his clients which once existed have largely disappeared, and

credit control is now exercised mainly on the basis of accounting statements.

Taxation

Some of the earliest recorded accounts were for the purpose of taxation; the present emphasis on income tax has been responsible for a much wider interest in accounting, and has led to insistence by the state upon proper accounting methods.

Government

Responsible government and the entrance of government into industrial and commercial activities have required the keeping of accounts and the publication of accounting statements which, in spite of superficial differences, depend on the same fundamental methods as ordinary business accounting.

Public Policy

The fixing of rates for public utilities, the administration of tariffs, and the social control of industry, all require the keeping of accounts, and depend for their effectiveness on the accuracy of those accounts.

Internal Control

The division of labour, organization in departments, and delegation of control in large businesses have contributed to and depend on accounting.

Control is exercised through a specialized accounting department which is able to prevent waste and theft, and to present statements to the management to enable them to judge the efficiency of the parts and, to some extent, of the individuals which make up the business. Further, the policy of management is guided by accounting statements.

CHAPTER II

INSTEAD of starting immediately on a discussion of "double entry" bookkeeping, a system of accounts will be gradually built up on the basis of the needs that would become apparent if a man started a very small business. The exact form of accounts in common use will not be adhered to strictly because simplicity in exposition and the understanding of final statements are here of greater importance than the mastery of the precise mechanism. The examples given are as short as possible; actual transactions would, of course, be much more numerous.

CASH BOOK

The first record required in a money economy is a cash book; and in it are recorded the opening balance of cash on hand, receipts of cash, payments in cash, and the closing balance. This record enables a man to know what payments he can make from time to time without counting his money on each occasion; to analyse his payments and make comparisons between one period and another; and to detect theft and carelessness.

Cash Book

Dr.					Cr.	
1941			1941			
Jan. 1	Cash on hand	$490	Jan. 1	Rent (one week) in advance	$	20
Jan. 3	Jones, for goods sold	69	Jan. 2	Smith, for goods purchased		105
Jan. 5	Black, for goods sold	217	Jan. 4	White, for goods purchased		70
			Jan. 6	Wages for one week		25
			Jan. 6	Balance of cash on hand		556
		$776				$776
Jan. 8	Cash on hand	$556				

The transactions are those for a week, showing the opening balance on Monday morning and the closing balance on Saturday. The left hand side of the book is called the debit side and the right hand the credit side, these being indicated by the abbreviations Dr. and Cr. The cash book is said to be debited or charged with all cash received and credited with all cash paid out. If the cash box or till is personified and the cash book is considered as the record of transactions between the owner of the business and the cash box, then the debit entries show the cash for which the cash box has become responsible or which have been charged to it; and the credit entries show what amounts the cash box has paid out on behalf of

the owner, thus discharging part of its responsibility to him.

Almost every transaction that is recorded in books of account can be modified in the mind until one side of it is the payment of money, and if the simple rule "The cash book is debited with cash received" is remembered, this will remove many future doubts as to the side of an account on which a particular entry should be made. Eventually, with a full understanding of the system, such doubts will never arise.

The entries in the cash book are records of cash received and cash paid, with the dates of receipts and payments, and sufficient description to identify the purpose of the transaction. The description of the whole transaction arising out of each contract is not, however, complete, for no information is here given of the dates at which the goods bought and sold were delivered; that is, whether they were cash or credit transactions. Also, rent is paid in advance, but the benefits from it accrue day by day. Further, no information is given as to contracts for purchases or sales of goods or services in respect of which no cash has yet changed hands, or of the stock of goods on hand at the beginning or end of the week. For these reasons the profit or loss on operations for the week cannot be determined without further information.

ACCOUNTS RECEIVABLE AND ACCOUNTS PAYABLE

If goods are purchased and sold on a credit basis, memory does not serve as an adequate record unless the number of transactions is very small, and a record showing indebtedness is obviously necessary. If goods are sold to a customer, his account is debited with their price, and this account will show a debit balance until cash is received in payment for them. When cash is received, the cash book is debited, as has already been explained, and the customer making the payment is credited.

Jones

Dr.						Cr.
1940	Dec. 3	Sales	$69	1940	Dec. 31	Balance $69
1941	Jan. 1	Balance	$69	1941	Jan. 3	Cash $69

The above account records first, the fact that on December 3 goods were sold for $69 to Jones; secondly, that at the end of the year his account showed a debit balance of $69; and thirdly, that Jones paid for the goods in cash (at the expiration of a month's credit) on January 3. The account is ruled off by two lines to show that it has no balance on January 3; that is, that the totals of the two sides are equal. The receipt of cash from Jones has already been recorded in the cash book. An account of this sort shows the balance due from the customer at any time; it also shows the

whole history of the transactions between the two parties, and, particularly, whether the customer settles his accounts promptly or in accordance with the terms of credit arranged.

The cash book also shows cash received from Black and cash paid to Smith; their accounts will be given later.

White

Dr.							Cr.	
1941	Jan. 4	Cash	$ 70	1941	Jan. 4	Purchases	$150
	" 6	Balance	80					
			$150				$150
					Jan. 6	Balance	$ 80

The above account shows that on January 4 goods of the value of $150 were purchased from White, his account being credited with this sum. On the same day a part payment of $70 was made. This amount has already been credited to the cash book and is here debited to White. At the end of the week the account is balanced by entering on the debit side the amount still owing and carrying this down to the new period as a credit balance, showing that White is a creditor for $80.

These accounts, headed by the name of a person with whom transactions take place, are called "personal" accounts. They are kept in the ledger unless they are of sufficient number to justify their segregation into two separate books, one for accounts receivable (resulting from sales) and one

for accounts payable (resulting from purchases). The total of the amounts owing in respect of sales (i.e., the total of the debit balances on personal accounts) is called "accounts receivable," and the total of the accounts owing in respect of purchases (i.e., the total of credit balances on personal accounts) is called "accounts payable." These totals can be readily determined at any time if the proper entries have been made, and, with the cash balance, show the "liquid" position of the business; the cash now available, plus the cash which will be collected shortly from the accounts receivable, being contrasted with the cash which will be paid shortly in settlement of accounts payable.

SERVICES

Every ordinary business transaction is a contract under which both parties acquire some right and assume some corresponding responsibility; that is to say that there is "consideration" on both sides. The consideration may consist of payment of cash, a promise to pay cash, handing over of goods, a promise to hand over goods, rendering a service, or a promise to render a service. These forms of consideration are not essentially different. Cash has the advantage that the recipient is free to use it for the acquisition of goods or services, past, present, or future; but cash can be the con-

sideration only on one side of a transaction: a business cannot be run merely by receiving and paying cash. Nor can a business be run merely by buying and selling goods for cash or on credit, because services in the form of rent and wages must also be purchased. Both goods and services are necessary for the operation of most businesses, while cash is a reservoir containing a command over further goods and services. The object of a business is to combine goods and services so that the resultant product can be used as consideration for a fresh contract, and a skilful combination results in profitable transactions. A wholesale merchant, for instance, has a reserve of cash on hand; rents or owns premises, which he insures; employs labour; buys goods and packing materials; and distributes goods to retailers. All his "factors of production" are essential.[1]

The payments made for such services as rent and wages are usually made at regular intervals, and a separate account is kept for each so that a complete record of rent and wages may be available. As the amounts are paid in full, no balances being left unpaid, the names of those to whom the payments are made are of no importance in the

[1]The costs of services are referred to in many books as "expenses"; an unfortunate name because the cost of goods is equally an expense, and because the word "expenses" is best restricted to the costs of goods and services *used up* during an accounting period, irrespective of the date of acquisition.

accounting records, and for these reasons the accounts are headed by the name of the service and are called "nominal" accounts. Payments of cash for rent and wages are, as has been shown, credited to the cash book, and are then debited to the rent account and wages account, respectively. The owner or manager of the business can thus see when the last payment was made and what period it covered without referring back to the cash book and other records.

Rent

(payable weekly in advance)

Dr.			Cr.
1941 Jan. 1	Cash	$20	

Wages

(payable weekly in arrears)

Dr.			Cr.
1941 Jan. 6	Cash	$25	

PURCHASES AND SALES

At this point, having developed accounts for cash, accounts receivable, accounts payable, and services, the owner of the business may wish to know whether he is operating at a profit or a loss, and to what extent. In order to determine this, further accounts are necessary. The transactions have now become more complicated and a complete system must be installed.

When goods are purchased they are delivered with an invoice, which gives the names of the two parties to the transaction, the date of the purchase, a description of the goods and their price. This invoice is checked and the particulars entered in the purchase account in the ledger. The invoice is numbered and filed for reference.

Purchases

Dr.			Cr.
	1941		
Jan. 1	Smith (Invoice No. 1)	$105	
Jan. 4	White (Invoice No. 2)	150	

This account gives information that has not been recorded so far: that on January 1 goods were purchased from Smith for $105. Smith's account, which should appear under accounts payable, can now be produced.

Smith

Dr.						Cr.
1941	Jan. 2	Cash	$105	1941	Jan. 1	Purchases	$105

The credit item of $105 is posted[2] to Smith's account from the debit side of the purchases account and the debit item of $105 is posted from

[2]All transactions are recorded in the first place in what are called "books of original entry"; each item entered in these books is eventually entered (either individually or as part of a total) in an account in the ledger, and this process is what is meant by "posting."

the credit side of the cash book. The two sides of the account are equal, and the account is ruled off to show that no balance remains. White's account has already been given and should be compared with Smith's. The student should notice that the particulars entered against a sum of money in one account give the name of another account in which a corresponding entry has been made.

When goods are sold, an invoice is prepared in duplicate; one copy is sent to the customer and the other is numbered and filed after the particulars have been entered in the sales account.

Sales

Dr.			Cr.
	1941		
	Jan. 2	Black (Invoice No. 1)	$217
	Jan. 5	Robinson (Invoice No. 2)	40

This account is started on January 1 and earlier sales are not shown. For this reason no entry is seen for the sale of goods to Jones on December 3 which has been entered on the debit side of his account.

Information is now given that on January 2 goods valued at $217 were sold to Black. Black's account, which should appear under accounts receivable, can now be produced.

Black

Dr.			Cr.		
1941 Jan. 2	Sales	$217	1941 Jan. 5	Cash	$217

The debit item is posted to Black's account from the credit side of the sales account, and the credit item is posted from the debit side of the cash book.

The sales account records a sale to Robinson on January 5 of goods valued at $40, for which no cash has yet been received. Robinson's account, which should appear under accounts receivable, can now be given.

Robinson

Dr.			Cr.
1941 Jan. 5	Sales	$40	

On January 6, at the end of the week, this item of $40 is a debit balance, showing a debt due from Robinson.

INVENTORY AND PROFIT AND LOSS

In a non-manufacturing business dealing with standardized products, the physical inventory or stock of the goods which should be on hand can be determined by deducting the total number of units sold from the total number of units purchased since operations began; but this gives no information as to value, and is of no use in a manufacturing business or in any business in which units sold cannot be identified with units purchased. In such

a business, the value of the inventory cannot be determined from the value of purchases and the value of sales. To arrive at this, a list of goods on hand is made, a value placed against each item, and a total arrived at. This valuation is made at the end of a financial period and the amount is entered on the debit side of the inventory account.

Inventory

Dr.		Cr.
1941 Jan. 1 Balance	$730	

This account shows that the inventory account had a debit balance of $730 at the beginning of the year. If the inventory is personified, it can be said that it is responsible to the business for the value of the goods in stock.

In a simple business, such as the one here illustrated, the profit or loss is determined as follows: to the opening inventory are added the purchases and the closing inventory is deducted, the result being the cost of goods sold; to this are added the costs of services, the result being the total costs incurred in obtaining and selling the goods; this, in turn, is deducted from the sales, and the result is the profit or the loss. This may appear clearer if expressed in tabular form:

Negative or debit items	*Positive or credit items*
Opening inventory	Closing inventory
Purchases	Sales
Services	

If the total of the positive items exceeds the total of the negative items, the difference is the profit; if the converse is true, the difference is the loss. The above columns correspond to the debit and credit of the profit and loss account.

At the end of a financial period (one week in this example) the totals of the accounts for goods and services are transferred to the profit and loss account by entries in the journal. These entries constitute instructions to the book-keeper to make entries in the ledger: the final book of account to which all entries in other books eventually find their way.

Journal

1941			
Jan. 6	Dr. Profit and Loss	$730	
	Cr. Inventory		$730
"	Dr. Profit and Loss	$255	
	Cr. Purchases		$255
"	Dr. Profit and Loss	$ 20	
	Cr. Rent		$ 20
"	Dr. Profit and Loss	$ 25	
	Cr. Wages		$ 25
"	Sales	$257	
	Cr. Profit and Loss		$257

The accounts mentioned, except profit and loss, will now appear as follows:

Inventory

Dr.			Cr.		
1941			1941		
Jan. 1	Balance	$730	Jan. 6	Profit and Loss	$730

Purchases

Dr.			1941		Cr.
1941			Jan. 6	Profit and Loss	$255
Jan. 1	Smith (Invoice No. 1)	$105			
Jan. 4	White (Invoice No. 2)	150			
		$255			$255

Rent

Dr.			1941		Cr.
1941			Jan. 6	Profit and Loss	$ 20
Jan. 1	Cash	$ 20			

Wages

Dr.			1941		Cr.
1941			Jan. 6	Profit and Loss	$ 25
Jan. 6	Cash	$ 25			

Sales

Dr.			1941		Cr.
1941			Jan. 2	Black (Invoice No. 1)	$217
Jan. 6	Profit and Loss	$257	"	Robinson (Invoice No. 2)	40
		$257			$257

One item remains to be dealt with: the closing inventory has not yet been recorded. Suppose that the goods on hand at the end of the period are valued at $795. This amount must be charged to the inventory account to show its responsibility

for the goods now on hand, and a final journal entry is therefore required.

Journal

1941			
Jan. 6	Dr. Inventory	$795	
	Cr. Profit and Loss		$795

The inventory account will now appear as follows:

Inventory

Dr.			1941		Cr.
1941					
Jan. 1	Balance	$730	Jan. 6	Profit and Loss	$730
Jan. 6	Profit and Loss	$795	"	Balance	$795
Jan. 8	Balance	$795			

The profit and loss account is made up of all the entries placed against profit and loss in the journal.

Profit and Loss Account for the Week Ending Jan. 6, 1941

Dr.		Cr.	
Inventory Jan. 1	$ 730	Sales	$ 257
Purchases	255	Inventory, Jan. 6	795
Rent	20		
Wages	25		
Balance: Profit	22		
	$1,052		$1,052
		Balance	$ 22

The profit on operations for the week is $22.

The accounts of liabilities, accounts receivable, and cash are not involved in the profit and loss account. If a profitable transaction is made the net value of the assets must be increased thereby, but the element of profit is contained in the cost of goods and services *used* and the price at which the resulting products are sold, and not in the cash settlement of outstanding balances. Reference to White's account shows that a credit balance of $80 remains on this account, but this arises out of purchases of $150 which have been included in the purchases account. If this account were settled by a payment of cash of $80, this would obviously not affect the profit.

CAPITAL AND BALANCE SHEET

The capital of a business is the book value attached to the ownership of it; that is to say, the difference between the book value of the assets and the amount of the liabilities. A balance sheet is a statement of assets on the one side and of liabilities and capital on the other side. If a man starts a business by transferring $1,000 to a cash box which he proposes to keep separate for that business, this transaction[3] can be best recorded in the first place by an entry in the journal.

[3]This transaction, the journal entry and the balance sheet have no reference to the illustration that is being used for the rest of this chapter.

Journal

Dr. Cash	$1,000		
		Cr. Capital	$1,000

The balance sheet of the business at that moment will be:

Balance Sheet

Cash	$1,000	Capital	$1,000
	$1,000		$1,000

The cash will be spent in acquiring various assets, and liabilities will be incurred, but the capital will remain the same unless a profit is made on operations, when it will increase; or a loss is made on operations, when it will decrease; or capital is added to or withdrawn from the business. At all times, however, the capital will be the difference between the assets and the liabilities.

Assuming that, in the illustration that has been used throughout the chapter, full information of the affairs of the business has been given, the balance sheet at the end of 1940 can be reconstructed. This information shows that the following assets were on hand on December 31, 1940.

Cash	$ 490
Accounts Receivable (Jones)	69
Inventory	730
	$1,289

As no liabilities were outstanding, the capital must have equalled the total of the assets.

Balance Sheet at December 31, 1940

Cash	$ 490	Capital	$1,289
Accounts Receivable	69		
Inventory	730		
	$1,289		$1,289

Reference to the accounts already given for cash, Jones, and inventory, shows that the amounts appearing on the left hand side of the balance sheet were all debit balances at the end of 1940. The capital account of the business at that date must have been as follows:

Capital

Dr.		Cr.
	1940	
	Dec. 31 Balance	$1,289

This credit balance appears on the right hand side of the balance sheet.

At the end of 1940, therefore, the total of the debit balances in the books was equal to the total of the credit balances. If the accounts used in the illustration are examined it will be found that every time a debit entry was made in one account a credit entry of the same amount was also made in some account, and *vice versa*. This means that every transaction has two aspects which must be

recorded in the books to give a complete picture of it. For instance, a purchase of goods is debited to purchases and credited to the person from whom the purchase is made; a payment of cash is credited to the cash account and debited to the person receiving the cash.

As the books at the end of 1940 or the beginning of 1941 were in balance, that is to say that the total of the debit balances equalled the total of the credit balances, and as all the debit entries that have been made since then are equal to all the credit entries, the books must still be in balance.

Trial Balance, January 6, 1941

Debit Balances		Credit Balances	
Cash	$ 556	Accounts Payable:	
Accounts Receivable:		White $80	
Jones		Smith	
Black			$ 80
Robinson $40		Profit and Loss	22
—	40	Capital	1,289
Inventory	795		
	$1,391		$1,391

Arithmetical errors in making entries in the books will be shown by the failure of the trial balance to balance. A trial balance can be prepared at any time.

From the trial balance, the balance sheet can be constructed.

Balance Sheet at Jan. 6, 1941

Cash	$ 556	Accounts Payable	$ 80
Accounts Receivable	40	Capital at 31 Dec. 1940	$1,289
Inventory	795	*Add* profit for week	22
			1,311
	$1,391		$1,391

A simple example has been given to show how, starting with a balance sheet of one date, a system of "double entry" provides a method of preparing a profit and loss account for a period and a balance sheet at the end of that period. The explanations have been condensed and the student should make quite sure that he has understood them by working out examples in full detail until he gets them right at the first attempt. One example is given for that purpose, and others can be made up without any difficulty.

Example to be worked out

From the following information in respect of a business, open all the necessary accounts, and make entries in them to the record transactions. Prepare a profit and loss account for the period covered by the transactions and a trial balance and balance sheet at the end of the period.

Balance Sheet at June 30, 1941

Cash	$ 900	Accounts Payable	$ 860
Accounts Receivable	1,220	Capital	15,060
Inventory	13,800		
	$15,920		$15,920

The accounts receivable were made up of:

Wordsworth	$ 190
Keats	780
Shelley	250
	$1,220

and the accounts payable were made up of:

Carlyle	$350
Ruskin	510
	$860

The following transactions took place during the first week of July, 1941:

July 1	Goods sold to Keats	$ 260
	Goods purchased from Arnold	390
	Cash received from Shelley	250
July 2	Cash paid to Carlyle	200
	Goods sold to Coleridge	985
July 3	Goods sold to Wordsworth	70
	Cash received from Keats	500
July 4	Additional capital in cash paid in by proprietor	1,000
	Goods purchased from Carlyle	1,320
	Cash paid to Ruskin	510

July 5	Goods purchased from Arnold	$1,200
	Goods sold to Shelley	1,270
July 6	Rent paid for first week in July	140
	Wages paid for first week in July	110
	Cash paid to Carlyle	500

The inventory of goods on hand on July 6 was valued at $14,460.

CHAPTER III

IN this chapter a few complications are added to the very simple accounts already described, and a more realistic picture is given of the books of a business.

The first entry to record any transaction in the books is made in what is called a "book of original entry." These books are used largely as a convenience in office organization; if every transaction was recorded in the ledger immediately, only one clerk could be working on the books of account at one time.

CASH

A simple form of cash book has already been described. It is, in fact, the cash account which might be kept in the ledger. In practice, the cash record is frequently kept in two separate books whose totals are entered at regular intervals in a cash account in the ledger, one book recording receipts and the other payments. The use of separate books for receipts and payments facilitates division of labour amongst the accounting staff because two clerks can be using the books at one time: for instance one clerk may be recording cash receipts while another is posting to the ledger

the entries that have already been made in the cash payments book.

For convenience these books contain not only actual cash transactions but also bank transactions and a record of cash discounts received and allowed. Many different rulings of cash books are found, varying with the office and book-keeping organization; the rulings given below assume that all cash received is paid daily into the bank and that payments are made only by cheque.

Cash Receipts Book

Date	Particulars	Folio	Discount	Details of Receipts	Bank
1	*2*	*3*	*4*	*5*	*6*
1942					
Jan 1	Jones	72	$5	$95	
	Smith	143		14	
	Robinson	131	$2	38	$147

Explanation of Columns

1. Date. The date on which cash is received is entered in this column.
2. Particulars. The name of the account in the ledger to the credit of which the item is to be posted.
3. Folio. The page in the ledger on which the account mentioned in Column *2* is found. This will be entered by the clerk who makes the posting to the ledger.

4. Discount. Any cash discount allowed as a deduction from the amount due. This will be posted to the credit of the payer on the folio indicated in Column *3*. The total of the discount column is posted monthly to the debit of the discounts allowed account in the ledger. The result of this is that each individual item of discount is posted to the credit of some personal account in the ledger, while the total of these items is posted to the debit of the discount account, thus completing the double entry.

5. Details of Receipts. All cash and cheques received are entered in this column, which is totalled daily and the total extended into the bank column. All cash and cheques are deposited in the bank daily. Each individual item will be posted to the credit of the account named in Column *2* on the folio entered in Column *3*.

6. Bank. All daily deposits in the bank. These amounts will correspond with the counterfoils of paying-in slips, stamped by the bank, and will also correspond with the credit items on the statement of account rendered by the bank. The total of this column is posted every month to the debit of the cash or bank account in the ledger.

Cash Payments Book

Date	Particulars	Folio	Discount	Bank	Voucher Number
1	*2*	*3*	*4*	*5*	*6*

Explanation of Columns

1. Date. The date on which cheques are drawn in payment of accounts.
2. Particulars. The name of the account in the ledger to the debit of which the item is to be posted.
3. Folio. The page in the ledger on which the account mentioned in Column *2* is found. This will be entered by the clerk who makes the posting to the ledger.
4. Discount. Any cash discount allowed as a deduction from the amount due. This will be posted to the debit of the payee on the folio indicated in Column *3*. The total of this column is posted monthly to the credit of the discounts received account in the ledger. Compare with Column *4* above.
5. Bank. All cheques drawn. Each amount will be posted to the debit of the account named in Column *2*, on the folio entered in Column *3*. These amounts will correspond with the counterfoils of the cheque book, and will correspond with the debit items on the statement of account rendered by the bank. The total of this column is posted every month to the credit of the cash or bank account in the ledger.
6. Voucher Number. When an account is paid a receipt may be obtained from the payee; this will be numbered and filed, and the number entered in this column. If no receipt is obtained the statement of account and the cancelled cheque should be filed in its place.

The cash or bank account in the ledger starts with an opening balance on the debit side (or on the credit side if the account with the bank is overdrawn). The total of receipts is posted from the bank column of the cash receipts book to the

debit of this account monthly, and the total of payments is similarly posted from the bank column of the cash payments book to the credit of this account. At the end of each month the balance of this account is reconciled with the balance shown in the statement received from the bank. The two balances will probably not agree at any date because some cheques entered in the cash payments book will not be cleared until a later date.

An examination of the above will show that the double-entry system has been maintained. All the entries made in the cash receipts book and the cash payments book are posted first to individual accounts in the ledger and at the end of the month the totals of the discount and bank columns are posted to the ledger.

PETTY CASH

As all cash received is deposited in the bank, a small fund of cash is placed under the control of a petty cashier so that payments which cannot be made conveniently by cheque can be made in cash. When the fund is established a cheque is drawn for a round sum (say $50) in favour of the petty cashier; this payment is recorded in the cash payments book and posted to a petty cash account in the ledger.

When a cash payment is required a properly authenticated voucher is handed to the petty

cashier in exchange for the cash, and this voucher is placed in the petty cash box, so that, at all times, the petty cash box contains cash or vouchers totalling to the amount of the petty cash fund. When the cash needs to be replenished, the vouchers on hand are summarized and totalled, and a cheque is drawn for the amount of this total, which will bring the cash up to its original amount. The vouchers are withdrawn and filed. The cheque which is drawn to replenish the fund is entered in the cash payments book and is posted to the debit of the appropriate accounts in the ledger, in accordance with the analytical summary prepared from the petty cash vouchers.

Petty Cash Summary

Date	Voucher Number	Amount	Office Supplies	Freight	Cleaning Materials	Car Fares	Sundries
1942							
Jan. 1	1	$12	$12				
" 1	2	2			$2		
" 2	3	15		$15			
" 3	4	1				$1	
" 3	5	10		10			
" 5	6	6					$6
" 6	7	3	3				
		$49	$15	$25	$2	$1	$6

On January 7 a cheque for $49 is drawn to bring the petty cash fund back to $50. This cheque is

entered in the cash payments book and finds its way to the credit of the bank account in the ledger. The accounts in the ledger for office supplies, freight, etc., are debited respectively with $15, $25, etc.

PURCHASES AND SALES

As the number of transactions to be recorded under these headings is probably large, separate books, designed to record the information required, are kept for each, and the monthly totals of these books are posted to the ledger. This allows a further division of labour in the office, and prevents the ledger from being filled up with details of purchases and sales. These details could not be conveniently recorded in ledger accounts ruled in the usual way.

Particulars of all purchases are entered in the purchases journal from the invoices received. Each item is posted to the credit of the firm supplying the goods, and the total of purchases for each month is posted to the debit of purchases account in the ledger. The result of this is that the purchases account in the ledger contains in monthly totals the same items as would have been entered in it individually if no purchases journal were kept.

Particulars of all sales are entered in the sales journal from the invoices issued when goods are sold. Each item is posted to the debit of the

customer, and the total of sales for each month is posted to the credit of the sales account in the ledger.

Sales Journal

Date	Particulars	Invoice No.	Amount

BAD DEBTS

At the end of each financial year, the accounts receivable are examined in detail and an estimate is made of the amount of these which will prove to be bad, or uncollectable. This amount must be deducted from the total of the accounts receivable to give their value for the balance sheet, and this is done by creating a reserve for bad debts. A newly formed business will, sooner or later, find the necessity for the creation of such a reserve. Suppose a business estimates the amount of its first bad debts to be $700.

Journal

1939
Dec. 31 Dr. Bad Debts $700
Cr. Reserve for Bad Debts.....$700

The bad debts account is then closed by a transfer to profit and loss account, the bad debts being an expense of the period in which they occur.

Dr. Profit and Loss....$700 Cr. Bad Debts.....$700

During the next financial year, suppose that one of the accounts receivable, for $540, proves to be uncollectable. As no purpose is served by keeping the balance on the books, it is "written off" by charging it to reserve for bad debts account.

1940
July 5 Dr. Reserve for
Bad Debts $540
Cr. Jones.....$540

At the end of the year another estimate is made of the reserve necessary for bad debts; suppose the amount is $400. The reserve at present stands at $160, so that an additional charge of $240 is required.

1940
Dec. 31 Dr. Bad Debts $240
Cr. Reserve for Bad
Debts.....$240

The balance of the bad debt account is now charged to profit and loss.

Dec. 31 Dr. Profit and
Loss.....$240 Cr. Bad Debts.....$240

The chief accounts described above will appear as follows:

Bad Debts

Dr.					Cr.
1939			1939		
Dec. 31	Reserve for Bad Debts	$700	Dec. 31	Profit and Loss	$700
1940			1940		
Dec. 31	Reserve for Bad Debts	$240	Dec. 31	Profit and Loss	$240

Jones

Dr.					Cr.
1940			1940		
Jan. 1	Balance	$540	July 5	Reserve for Bad Debts	$540

Reserve for Bad Debts

Dr.					Cr.
1940			1939		
July 5	Jones	$540	Dec. 31	Bad Debts	$700
Dec. 31	Balance	400	1940		
			Dec. 31	Bad Debts	240
		$940			$940
			1941		
			Jan. 1	Balance	$400

The reserve for bad debts is a credit balance in the ledger at the end of each year, but it is not a liability, and should not, therefore, appear on the credit side of the balance sheet. It is an adjustment of the total value of accounts receivable and is shown on the balance sheet as a deduction from the gross amount of this asset.

Accounts Receivable	$29,350	
Less Reserve for Bad Debts	400	
		$28,950

SERVICES RECEIVED BUT NOT RECORDED AT THE TIME OF RECEIPT

Examples have already been given of the payment of rent and wages, and how they are recorded in the ledger and finally find their way to the profit and loss account. In addition to rent and wages, other payments for services such as salaries, insurance, and interest have to be recorded. The cash payments in respect of these are not usually made in such a way that they coincide exactly with the charge which is applicable to a financial period. If wages are paid on each Saturday for the week ending on that day, and the end of the financial year falls on Tuesday, then at the end of the year there is a liability for the wages of Monday and Tuesday that has to be recorded in the books.

In a business of some size, particularly in a manufacturing concern, a card is kept for each employee on which the time spent or the work done is recorded; from these cards a payroll is prepared each week and the total of the payroll is credited to an accrued wages account and debited to wages.

Journal

1940
Dec. 28 Dr. Wages . . . $349
Cr. Accrued Wages . . . $349
Total of payroll for week ending December 28

When the employees are paid in cash, the cash book is credited and the accrued wages account is debited. If the full amount is paid, then no balance is left on the accrued wages account, but if a cash payment is not made to some employees, owing to their absence on pay-day, a credit balance is left on the accrued wages account, showing the amount of the liability for unpaid wages. The wages account is closed at the end of the year by a transfer to profit and loss.

In the above example, December 28 was a Saturday, and at the end of the year the wages for December 30 and 31 have accrued but are unpaid. The cards of the employees are collected and a payroll made up for these two days and the total is debited to wages and credited to accrued wages.

Journal

1940			
Dec. 31	Dr. Wages	$123	
	Cr. Accrued Wages		$123

In this way the total amount debited to wages in the year is the actual cost of the services of the employees for the year, and the credit balance on the payroll account at the end of the year is the amount remaining unpaid in respect of those services.

Wages

Dr.						
1940				1940		
Jan. 6	Accrued Wages		$354	Dec. 31	Profit and Loss	$17,344
" 13	"		362			
" 20	"		347			
			⋁⋁⋁			
Dec. 28	"		349			
" 31	"		123			
			$17,344			$17,344

Accrued Wages

1940			1940		
Jan. 6	Cash	$354	Jan. 6	Wages	$354
" 13	"	362	" 13	"	362
" 20	"	347	" 20	"	347
		⋁⋁⋁			⋁⋁⋁
Dec. 28	"	308	Dec. 28	"	349
" 31	Balance	164	" 31	"	123
		$17,344			$17,344
			1941		
			Jan. 1	Balance	$164

The last day of 1939 was a Saturday and there was no balance of unpaid wages at the end of that year: that is to say that there was no balance on the accrued wages account to carry forward to 1940. At the end of 1940 a balance of $164 was carried forward, made up of $41 unpaid for the week ending December 28 and $123 unpaid for December 30 and 31. The amount of $41 was due for payment on December 31, and appears on the balance sheet under the heading Current Liabili-

ties; the amount of $123 will not fall due for payment until the first pay-day of 1942 and appears on the balance sheet under Accrued Liabilities.

PREPAYMENT FOR SERVICES

Rent and insurance are normally paid in advance, and the cash payments made in the year will not usually represent the true cost of these services used during the year. These cash payments are usually regular payments of a fixed amount; they are credited in the cash book and debited to the appropriate account: Rent or Insurance. At the end of the financial year the amounts by which these services have been prepaid are determined, and the difference between these amounts and the debit entries in these accounts is transferred to profit and loss. The debit balance remaining on the rent and insurance accounts shows the amount by which these services are prepaid at the end of the year.

If rent is paid in advance every six months on April 1 and October 1, then at the end of December rent will be paid in advance for three months.

Dr.			*Rent*			Cr.
1941			1941			
Jan. 1	Balance	$100	Dec. 31	Profit and Loss		$400
Apr. 1	Cash	200				
Oct. 1	"	200	" 31	Balance		100
		$500				$500
1942						
Jan. 1	Balance	$100				

As long as the rent remains $400 a year, payable every six months in advance on April 1 and October 1, a balance of $100 for rent paid in advance will remain on the account at December 31. The amounts paid in advance for services at the end of the financial year appear on the balance sheet as an asset under the heading Deferred Charges.

Problems in accounting, set to determine whether or not the methods explained have been understood, usually start with a trial balance. This, as has been stated earlier, is a list of debit and of credit balances in the ledger at the end of a financial period before adjusting entries have been made. One such problem is worked out in detail below.

Example

Trial Balance, December 31, 1941

Bank	$ 2,400	Capital	$ 18,990
Petty Cash	17	Austen	2,127
Inventory of Merchandise	14,300	Eliot	1,040
Dickens	2,620	Sales	97,800
Thackeray	3,130	Reserve for Bad Debts	440
Trollope	1,080		
Purchases	89,400		
Wages	6,150		
Rent	1,300		
	$120,397		$120,397

The inventory of merchandise on December 31, 1941, is valued at $16,400. Wages amounting to $60 have accrued, and no entry has yet been made in the books to record this. Rent of $1,200 a year is paid quarterly in advance on February 1, May 1, August 1, November 1. Bad debts are estimated at $700. Make journal entries to record the necessary adjustments to the accounts and prepare a profit and loss account for 1941 and a balance sheet at December 31, 1941.

Journal

1941

Dec. 31 Dr. Profit and Loss $14,300
Cr. Inventory.....$14,300

To charge the opening inventory to profit and loss.

Dr. Inventory.....$16,400
Cr. Profit and Loss .$16,400

To set up the closing inventory as a debit balance.

Dr. Profit and Loss $89,400
Cr. Purchases.....$89,400

To charge purchases for the year to profit and loss.

Dr. Wages..... $60
Cr. Accrued Wages. $60

To adjust the wages account by the amount due and unpaid.

Dr. Profit and Loss $6,210
Cr. Wages..... $6,210

To charge the total expense for wages for the year to profit and loss.

Dr. Profit and Loss $1,200
Cr. Rent..... $1,200

To charge the rent for the year to profit and loss.

Dr. Bad Debts..... $260
Cr. Reserve for Bad Debts..... $260

To increase the reserve to the estimated amount of bad debts.

Dr. Profit and Loss $260
Cr. Bad Debts..... $260

To charge to profit and loss the total of bad debts incurred during the year.

Dr. Sales.....$97,800
Cr. Profit and Loss.$97,800

To credit the sales of the year to profit and loss.

Profit and Loss Account for Year ending December 31, 1941

Dr.		Cr.	
Inventory Jan. 1	$14,300	Sales	$97,800
Purchases	89,400	Inventory	16,400
Wages	6,210		
Rent	1,200		
Bad Debts	260		
Balance: Profit	2,830		
	$114,200		$114,200
		Balance	$ 2,830

One last entry in the journal is required to transfer the balance of the profit and loss account to capital:

1941			
Dec. 31	Dr. Profit and Loss	$2,830	
	Cr. Capital		$2,830

Balance Sheet at December 31, 1941

Cash: in Bank	$2,400	
Petty Cash	17	
		$ 2,417
Accounts Receivable: Dickens	$2,620	
Thackeray	3,130	
Trollope	1,080	
	$6,830	
less Reserve for Bad Debts	700	
		6,130
Inventory		16,400
Deferred Charges (Rent)		100
		$25,047
Accounts Payable: Austen	$2,127	
Eliot	1,040	
		$ 3,167
Accrued Liabilities (Accrued Wages)		60
Capital Jan. 1	$18,990	
add Profit for year	2,830	
		21,820
		$25,047

SURPLUS

In the examples used so far, the capital account has been adjusted at the end of each year by the amount of the profit or loss on operations, so that,

at the beginning of each new year, the capital account is equal to the difference between the assets and liabilities. In some businesses, however, the capital account is kept separate from the accumulations of profit and represents only the funds contributed by the proprietor to the business. The profit or loss for each year is transferred to a surplus account, and any profits withdrawn from the business by the proprietor are debited to surplus. In the above example, suppose that the capital contributed to the business was $15,000: this means that the surplus at the end of 1940 must have been $18,990 less $15,000, or $3,990. At the end of 1941 the balance of profit and loss would be transferred to surplus.

Journal

1941			
Dec. 31	Dr. Profit and Loss	$2,830	
	Cr. Surplus		$2,830

The credit side of the balance sheet would then read as follows:

Accounts Payable: Austen	$2,127	
Eliot	1,040	
		$ 3,167
Accrued Liabilities (Wages)		60
Capital		15,000
Surplus Jan. 1	$3,990	
add Profit for year	2,830	
		6,820
		$25,047

If the proprietor now decided in January, 1942, to withdraw $2,000 of his profits, this would be recorded by an entry in the journal.

1942
Jan. 10 Dr. Surplus..$2,000
Cr. Cash.....$2,000

The surplus account shows, therefore, the accumulation of profits left in the business: total profits to date, less total losses to date, and less profits withdrawn from the business. In the accounts of a sole proprietor the balance on the profit and loss account each year is usually transferred to the capital account, and no surplus account is opened.

Example to be worked out

Trial Balance, March 31, 1942

Bank	$ 11,200	Capital	$ 25,000
Petty Cash	200	Surplus	1,700
Inventory of Merchandise	11,600	Macaulay	6,500
Chesterton	2,200	Woolf	2,100
Belloc	8,300	West	900
Shaw	400	Sales	150,200
Galsworthy	3,700	Reserve for Bad Debts	1,100
Purchases	104,000		
Wages	43,000		
Rent	2,600		
Bad Debts	300		
	$187,500		$187,500

The inventory of merchandise on March 31, 1942, is valued at $10,800. Payroll amounting to $700 is due and unpaid, and no entry has yet been made in the books to record this. Rent of $2,400 a year is paid quarterly in advance on the first day of February, May, August, and November. The amount owing by Shaw is uncollectable and is to be written off as a bad debt; after this has been done the bad debts are estimated at $900. Prepare a balance sheet at March 31, 1942, and a profit and loss account for the year ending at that date.

CHAPTER IV

THE assets so far described—cash, accounts receivable, inventory, and deferred charges—are called current assets. They are distinguished by two attributes. First, they are directly connected with cash; they are in the form of cash, or will shortly be realized in cash in the ordinary course of business, or they represent an advance payment in cash which will reduce the demands for cash in the immediate future. Secondly, when any use is made of them, they cease immediately to exist in their present form; inventory is disposed of and is replaced by accounts receivable; accounts receivable are collected in cash; cash is used to acquire new inventory or to pay for services; and so on.

FIXED ASSETS

Other assets, such as land, buildings, machinery, and furniture are used time after time in the process of production or in rendering services, and remain substantially unchanged after each use. They are called fixed assets.

Journal

1941			
Jan. 1	Dr. Land	$ 2,000	
	Buildings	10,000	
	Cr. Cash		$12,000

The statement was made above that fixed assets remain substantially unchanged after each use. After constant use, however, fixed assets have to be replaced because repairs and other operating costs become too great, or because technological changes have made replacement economically desirable. As no one can be sure in advance which of these will cause replacement, both deterioration and obsolescence can be conveniently called depreciation. Land used for commercial and industrial purposes does not depreciate in this way, although the site used may be found to have suffered a loss in value if a complete change is made and a new building is erected on a new site. Agricultural land may suffer depreciation, and mines suffer depletion of their ore reserves, but these are special cases which need not be dealt with here.

ACCOUNTING FOR DEPRECIATION

Payment of cash for a fixed asset may be considered as an exaggerated form of prepayment. Rent of buildings is usually paid in advance, and, as has been shown, the amount by which it has been paid in advance at the end of the financial year appears on the balance sheet as an asset (under the heading Deferred Charges). The payment of cash for a building may be considered as a prepayment of rent for the whole of the useful life

of the building. A charge for depreciation must therefore be made each year representing the cost involved in the availability of the service provided by the asset, and the remaining value of the asset must be included on the balance sheet.

Journal

1941
Dec. 31 Dr. Depreciation of Buildings..$250
Cr. Reserve for Depreciation of Buildings..... $250

To record depreciation of buildings which cost $10,000 and whose estimated useful life is 40 years (i.e., 2½% per annum).

1941
Dec. 31 Dr. Profit and Loss..$250
Cr. Depreciation of Buildings $250

This amount is charged each year against profit and loss, as shown in the last journal entry, and the reserve for depreciation is gradually built up so that, at the end of forty years, the whole of the original cost has been charged to profit and loss. The reserve for depreciation is deducted from the asset on the balance sheet, and (in the example used above) the following item will appear on the balance sheet at the end of the third year:

Buildings at cost.....	$10,000	
less Reserve for Depreciation.	750	
		$9,250

Unfortunately business men and accountants do not always deal with depreciation in this unequivocal way, and the amount charged for depreciation may be varied from year to year according to the wishes of the management. In a business which owns a large amount of fixed assets the profit or loss on a year's operations can be varied within wide limits by altering the depreciation charges. Such conduct is sometimes "justified" by arguing that depreciation is largely a matter of wear and tear, and that less use of equipment during a year results in a lower profit and also in a reduction of depreciation. A very large proportion of fixed assets, however, are discarded eventually not because they are worn out, but because they have become obsolete: competition requires that new equipment should be installed. A further argument against varying the charges for depreciation is that investors and the general public are misled in judging the results of the operations of a business, particularly in making comparisons from one year to another. "In spite of bad times, the company has done very well during the past year. The net profit from operations is $153,000 compared with $165,000 last year." This means that the accounts show these figures, but if a much greater charge was made for depreciation last year than this year, the statement is deliberately false and can only mis-

lead. Even the accounts themselves may mislead anyone who has no knowledge of accounting or who does not examine the accounts for both years carefully.

FURTHER DISCUSSION OF DEPRECIATION

The purpose of making charges for depreciation is to obtain as accurate a statement of profits as is possible; the reason for wishing to determine the amount of profit is that the owners of a business need to know how much they can withdraw from the business without impairing the original capital investment. The importance of this has increased considerably with the development of limited companies, in which the shareholders place the management of the funds they have invested in the hands of the directors; the shareholders are concerned to know that their dividends are paid out of income and not out of capital. The Companies Acts of many states provide that dividends shall not impair capital.

Accountants and business men on the one hand, and economists on the other, have different conceptions of capital and income. As has been seen from the method of recording depreciation, the accountant and the business man are concerned with the amount in money of the original investment and of the profits earned in financial periods. The value of the assets on the balance sheet has no

direct relation to the income stream which flows from them, and as long as no more is paid out in dividends than the amount of net profit shown by the accounts, the money value of the capital is maintained.

The view is sometimes advanced that the purpose of building up a reserve for depreciation is to provide a fund for the replacement of fixed assets, but in so far as this is true it is the result of management policy; the real purpose is undoubtedly to arrive at an accurate statement of profit or loss on operations. When the time arrives to discard fixed assets they may be replaced by assets of a totally different kind (as a result of changes in technique); and the cost of the new assets bears no necessary relation to the cost of the original assets, even if identical replacement takes place. Or again, replacement may not take place at all.

An attempt should be made to understand what is the effect of charging depreciation on fixed assets, for the amount so charged may be considerable in a large company and is of great importance in the economy as a whole. The charge for depreciation in the United States in one year has been estimated by Mr. Fabricant[1] as over $4,000,000,000.

[1] *Capital Consumption and Adjustment* (New York, 1938), p. 33.

Suppose that an entirely new business is started, that its machinery costs $100,000, and that the estimated life of the machinery is twenty years. At the end of the first year a reserve for depreciation of $5,000 is charged against the profits, (and if the accounts show a profit) this means that the $5,000 is retained within the business instead of being available to be paid out to the proprietors. The result of sales being made at a price higher than the total cost of the goods sold is to increase the amount of the excess of current assets over current liabilities. As the machinery is new, no part of this $5,000 is required for replacements; it may be retained in liquid form and invested in marketable securities, or it may be invested in expansion of the business itself. Whichever course of action is followed, the effect on the economy of the country as a whole has to be considered. If the funds are invested in outside securities, these may be government bonds or the bonds or shares of other companies; if the latter, then the expansion of other industrial concerns is facilitated. More frequently, probably, the funds are retained within the business, and an automatic expansion of the business takes place; then, when the replacement of the machinery falls due, new funds must be sought in the capital market or the short-term market (depending on the amount required at one time), and the total investment in

the business will have increased by $100,000. The management of the business may not be fully conscious of the effects of their policy, which may be followed whether or not an increase in investment in the business is wise at the time it is made out of funds retained as reserve for depreciation.

The effect of this automatic expansion on an industry as a whole may be to satisfy a need for greater capacity, but, even so, the investment takes place without passing the test of the capital market. On the other hand, the expansion may not be needed, and the total capacity of the industry may be increased to the point at which full operation is unprofitable, and loss or disinvestment of capital may result in some unit of the industry.

APPRAISALS

The accounting records for fixed assets in the example at the beginning of this chapter are based on the original cost of the assets, and the reserve for depreciation is also based on original cost. From time to time suggestions are heard to the effect that the "real" value of fixed assets should appear on the balance sheet, and by "real" value is usually meant "present cost of replacement." The value of an asset may have four main interpretations: (1) cost less depreciation, (2) market value if offered for sale, (3) replacement cost less depreciation, and (4) the present value of estimated

income from its use. The first of these has been dealt with above; the second is irrelevant to a going concern; the third varies from year to year (the original cost was once replacement cost), and its variations are of no significance to the business unless replacement is contemplated, and then only as one factor in a complex managerial decision; the fourth fluctuates with the very uncertain estimates of future profits and with the current interest rates, and, what is more, the income from one asset cannot be segregated from the total income from all the assets.

When the general level of prices rises, and probably at no other time, replacement costs begin to have great interest for financial houses and for some management groups, and a firm of appraisers is invited to "value" the assets. The valuation is not based on the income, but on replacement costs. The difference between the book value and the appraised value is then entered in the books.

Journal

1941			
July 1	Dr. Machinery	$10,500	
	Cr. Capital Surplus		$10,500

To adjust the machinery account to its appraised value.

In some businesses the credit entry has actually been made to profit and loss and the impression given that an operating profit of this amount has

been realized. At no time can there be any justification for the writing up of the value of the assets of a business after an appraisal, and the practice has led to widespread abuses of the most flagrant kind. This does not mean that dishonesty is invariably intended, but it should always be suspected. When an entry of this type is made in the books the depreciation policy has to be changed, so that the new value attributed to the asset will be written off during its useful life, and a change of this kind naturally vitiates comparisons of profits from year to year.

CAPITAL AND REVENUE EXPENDITURE

When a fixed asset is acquired, a capital expenditure is incurred and a debit is made to a fixed (or capital) asset account. Revenue expenditure on current assets, however, is debited to accounts from which transfers are made to the profit and loss account at the end of the financial period, to the extent to which the current asset has been used during the period. In practice this leads to two opportunities for inaccuracies which have an effect on the profit or loss shown.

The distinction between capital and revenue expenditure is not always clear when an existing asset is entirely renovated: part of the expenditure may be for repairs, and therefore a revenue item, and part may be for expansion or improvement,

and therefore a capital item. The correct procedure is to charge as a revenue expenditure whatever part of the total would, in the ordinary course, have been necessary to maintain the existing asset, and to charge as a capital expenditure that part of the total which represents an expansion of capacity, or an improvement over the existing asset. There may be room for considerable and honest difference of opinion, however, in this division.

Certain types of supplies and loose tools which are used in a manufacturing process may not be consumed during the period in which they are acquired, and stocks of considerable value may be on hand at any time, but in some businesses no inventory of these stocks is taken, and the whole expenditure is charged to profit and loss at the end of the period. These supplies and loose tools may be more properly considered as short-lived fixed assets than as revenue items, but, whatever they are called, the value of those remaining on hand at the end of each financial period should be ascertained, and only the cost of their use should be charged to the profit and loss account.

The charging of capital expenditure to revenue is one of the ways in which secret reserves are created (see Chapter v), and it is an all too common method by which profits and income tax are reduced from time to time by businesses. This

custom, of course, makes the serious study of published accounts more difficult than it would be if manipulation of this kind were not used.

VALUATION OF CURRENT ASSETS

Accounts Receivable

The total book value of accounts receivable, less reserve for bad debts, has been entered among the assets on the balance sheet in the examples so far used, and this is the method commonly used in business. The accounts receivable, however, are not available immediately in cash: goods may have been sold on various terms of credit, and all the debtors may have the right to cash discounts for earlier payment. If these discounts are claimed and cash is paid immediately, the amount received will be less than the value of the accounts receivable stated in the balance sheet. An alternative way of looking at the problem may be given. If the business wishes to obtain immediate cash for its accounts receivable, it can draw bills of exchange on its debtors and discount them with the bank. The amount of cash received from the bank will, of course, be less than the value of the asset shown in the balance sheet. The same line of argument can, however, be followed in respect of accounts payable, and in businesses in which the difference between the total of accounts receivable and the total of accounts payable is small, either abso-

lutely or in comparison with other items on the balance sheet, the common habit of ignoring the problem is not objectionable.

Inventory

The valuation of the inventory is not as simple as has been suggested in the examples used, and as the profit or loss depends on the values placed on the opening and closing inventories they are important. In a manufacturing concern the inventory consists of three parts: raw materials, goods in process and finished goods; the argument as to the valuation of the inventory of any other business is a simple modification of this.

The profits of a manufacturing business arise from the sale of finished goods, and until the contract of sale is made no profit can be properly taken into the accounts. The suggestion is sometimes made that part of the profit can be reasonably attributed to the period of manufacture, but as the amount of the profit cannot be known until the sale takes place, and as there is no sound basis on which the profit can be divided up and attributed to manufacturing and distribution, this is an additional reason why the policy of the management should be tested by the profit at the time of sale.

The most obvious way of valuing an inventory is at cost, or what is also called "first in, first out."

That is to say, the assumption is made that each type of raw material is taken into the manufacturing process in the order in which it was received; the first shipment received in store will be used to satisfy requisitions from the factory until it is all used up, so that, if the process were quickened, the impression of a continuous flow of materials would be given.

The raw materials are valued at their invoiced price (plus freight and duty), plus the cost of any services expended on them; the goods in process are built up of raw materials plus services such as labour, power, and depreciation of machinery; the finished goods have all the manufacturing services incorporated in them, plus the costs of packing and warehousing. If the goods manufactured consisted of one single type of article no difficulty would be experienced in valuing the inventory at cost. When two or more joint products are manufactured, however, the services cannot usually be directly attributed to each product and their cost has to be distributed amongst the products as well as can be done; the basis of distribution (particularly of overhead costs) is often arbitrary. If the products of manufacture are changed frequently the cost arrived at becomes increasingly less reliable.

Objection is raised to the valuation of inventory at cost on the grounds that in a period of rising prices the value placed on the same number of

units of goods is higher at the end of the period than at the beginning: that an inventory which is to all intents and purposes physically identical is valued at a higher price; and conversely, during a period of falling prices, at a lower price. The arguments against other methods of valuation are, however, equally strong and probably stronger, but as credit is frequently advanced on the basis of inventory valuation, the effect of this inflation and deflation of credit may be considered before deciding that cost is the best value to use. The fact that bankers may make wrong decisions is not a reason why the method of arriving at the profit of a business should be changed.

One further difficulty of valuation at cost should be noticed. If production is reduced the overhead costs cannot be reduced proportionately, with the result that, unless allowance is made for this, the inventory value of goods in process and of finished goods is higher per unit than it would be if production were at capacity. The effect on finished goods may not be very important because the volume on hand will probably be less, but at a time when prices are falling, the additional share of overhead costs included in the goods in process may be considerable.

Some businesses manufacture the same products, by the same or almost the same processes, over long periods of years, and about the same

physical volume of inventory is on hand during those periods. The stock of raw material and finished goods may vary, but the goods in process may remain exactly the same if a continuous production takes place (for instance in weaving textiles). Some accountants maintain that the minimum inventory always on hand should be considered as a fixed asset and valued at the cost of the original inventory. This is what is called the basic stock method, and the excess of raw materials or finished goods above the minimum is valued at current or actual cost.

This method is obviously attractive for a business to which it is well suited, and no one can say that it is better or worse, more accurate or less accurate than valuation at cost. Compared with valuation at cost the basic stock method tends towards an equalization of profits, and, in so far as business men are influenced by the profits reported, it may have an important effect on the trade cycle. Accuracy in the determination of profits is most desirable, but, unfortunately, the definition of profits involves the method by which the inventory is valued.

The custom developed, in the days of "conservative" business policy, of valuing the inventory at the lower of cost and market price. Accountants and business men had the satisfaction of knowing that the balance sheet did not exaggerate the

value of the inventory, although it might understate it. In more recent times, the emphasis has moved from the balance sheet to the profit and loss account, and economists have also begun to take an interest in the effects of inventory valuation. The lower of cost and market price is still the commonest basis of inventory valuation, although practically nothing can be said in favour of it. In a period of rising prices the final inventory will be the same as it would be if valued at cost; in a period of falling prices, or if a change in the trend of prices takes place towards the end of the financial period, it will be lower than if valued at cost. The chief objections to this method of valuation are: first, that it takes into the accounts prospective losses which may belong wholly to a subsequent financial period (raw materials, which have been purchased in the ordinary course of business for manufacturing processes in the next period, may fall in market price just before the end of the period, but that fall has nothing to do with the profitable management of the period); and secondly, the cost and the market value of each item of inventory has to be determined (which is difficult for goods in process), and this is an expensive operation when no particular benefit results from it.

The temptation of business men to adjust the value of the inventory to suit particular circum-

stances has often proved irresistible, and some Companies Acts now require that the method of valuation shall be stated on the balance sheet. The statements on balance sheets are, however, frequently so vague that they serve no purpose at all, but many people pretend to be able to analyse a balance sheet and make observations on trends without being too much concerned with the extreme uncertainty of the value of this important asset, upon which profits depend directly. Not uncommonly the management of a business does not determine the value of its inventory until the remainder of the profit and loss account is drafted, and the value chosen has no real relation to any proper basis of valuation. As a prominent company director in England stated with obvious satisfaction at a shareholders' meeting, the management brought into the accounts sufficient profit to make "a pretty balance sheet."

One further point is worth noting. Within a single business the distinction between fixed, or capital assets, and current assets is easily drawn and the inventory obviously falls within the latter classification; but taking the economy as a whole the inventory of one business (e.g., structural steel) is destined to be part of the capital equipment of other businesses. If these other businesses manufactured these goods for themselves they would never be considered as current assets, but

would be capital equipment in the course of construction. This fact is sometimes overlooked by economists in their distinction between consumption goods and production goods.

GOODWILL

If a proposal is made that one person shall purchase a business as a going concern from another, negotiations about the price will take place. Each asset is examined, perhaps, and agreement is reached that the book values of the assets are reasonable. On this basis, the value of the business is the book value of the assets less the liabilities. However, for one reason or another, the present owner may not be prepared to sell at that price; he turns to his record of profits over a period of years, and argues that the business earns a greater return on its book value than the normal rate of return in other businesses. This higher earning power may be the result of imperfect competition, of a successful advertising campaign, of particularly favourable location, of a well-established clientele, etc. The probability that these advantages will continue constitutes the goodwill of the business, and if agreement is reached as to its value, the sale of the business is effected. Being satisfied with the existing book values of the assets (current and fixed), the purchaser has to create a new account to record as an

asset the amount he has paid for goodwill. Goodwill is usually referred to as an intangible asset.

Journal

1941			
Jan. 1	Dr. Goodwill	$20,000	
	Cr. Cash		$20,000

To record payment for business in excess of net book value.

Because of uncertainty as to the permanence or length of life of goodwill, most business men do not like to see it remaining indefinitely on a balance sheet, and if accumulated profits are available a charge is made against them year by year in reduction of the goodwill account.

Journal

1941			
Dec. 31	Dr. Surplus	$5,000	
	Cr. Goodwill		$5,000

To reduce the amount of goodwill by a charge against accumulated profits.

This is a book entry which does not record any change in physical assets; it is merely the record of an entirely illogical decision by the management of the business. One of the most curious paradoxes of business is that, if more than average profits are earned, thus showing that goodwill exists, the profits are used to remove the record of goodwill from the books by entries such as the above; while

if no profits are earned, and goodwill is thus shown to be non-existent, the goodwill remains on the books. The effect of making a charge against profits in reduction of goodwill is to retain within the business funds which might otherwise be paid out as dividends, and this probably results in an expansion of operations.

SHORT-TERM LIABILITIES

Accounts payable are amounts owing on commercial credit. Loans from banks are short-term credit and are found in two forms. If a loan for a fixed sum is arranged, the whole amount is put into the customer's current account by the bank, and the customer debits this amount to his cash book and credits it to a bank loan account opened for the purpose. If an arrangement is made with the bank that the current account may be overdrawn up to a certain limit, no entry is required in the books to record this, but when the account is overdrawn the bank balance shown in the cash book will be a credit instead of a debit balance. The same nominal rate of interest charged on a bank loan and an overdraft will result in a higher real interest rate on the former, when interest is paid on the full amount for the whole period, than in the latter, when interest is paid on the daily adverse balance.

LONG-TERM LIABILITIES

Long-term borrowings are usually accompanied by a written contract which sets forth the amount of the loan, the interest rate, the terms of repayment and the security which is pledged. In large industrial and commercial businesses these loans are usually in the form of bonds which may be bought and sold by investors; they are usually issued in the first place to investment dealers.

Journal

1941			
March 1	Dr. Cash	$100,000	
	Cr. 5% 20 year Bonds		$100,000

To record the sale of 1,000 bonds of $100 each for cash.

The denomination or nominal value ($100) of the bonds is the amount which must be paid at maturity (i.e., the date at which repayment is due), and in the example above it is also the price at which they are issued. When a bond issue is planned, the market value and yield of bonds of a similar type is examined, so that the interest rate offered will be attractive but no higher than is necessary. The yield on bonds at any time depends on the interest rate, the market price and the length of time to maturity (subject also to the prospects of the business which has made the issue). If bonds bear interest at 5% per annum and the market price is $100, then the yield is 5%.

If, however, the market price is a little less than $100, the yield is over 5%, first because $5 a year is paid in interest on an investment costing less than $100, and secondly because $100 will be paid at maturity irrespective of the purchase price.

Suppose the yield on bonds of this type is at present a little over 5%, but that 5% is the nearest round number. A business making an issue of 5% bonds will then have to offer them at slightly less than $100 each in order to attract purchasers.

Journal

1941			
March 1	Dr. Cash.....	$98,000	
	Discount on Bonds	2,000	
	Cr. 5% 20 year Bonds..		$100,000

Or, if the yield on bonds of this type is slightly less than 5% these bonds will command a premium.

Journal

1941 Jan. 1	Dr. Cash..	$102,000	
	Cr. 5% 20 year Bonds..		$100,000
	Premium on Bonds.	2,000	

The accounting entries in future years in respect of the amortization of discount on bonds or premium on bonds are complicated, but the correct method of dealing with them is to transfer a certain amount from these accounts each year to the interest on bonds account so that, each year, the "real" interest is charged to this account, and

so that, at the date of repayment, the discount or premium accounts will have been reduced to zero.

REDEMPTION OF BONDS

The contract (trust deed) governing the repayment of bonds may provide for repayment in various ways.

A method which is recommended by many writers is to make an annual charge to surplus account against the profits which have been accumulated in that account.

Journal

1941 Dec. 31 Dr. Surplus . . $5,000
Cr. Sinking Fund Reserve . $5,000

The effect of this entry is to reduce the balance of surplus and to prevent payments out of profits to the proprietors to this extent. If these funds are retained within the business and used for expansion, cash will not be available for repayment when the time arrives. In order to provide for repayment, funds to an equal amount may be invested in "safe" outside securities which can be sold readily when the cash is needed.

1941 Dec. 31 Dr. Sinking Fund
Investments . . $5,000
Cr. Cash $5,000

Year after year charges to surplus are made and outside investments are purchased, and the two

items on the balance sheet "Sinking Fund Reserve" and "Sinking Fund Investments" are gradually built up so that, when repayment is due, they are each equal to the nominal amount of the bond issue. The investments are then sold and the cash payment is made. (In this example interest has been ignored; in practice the annual instalment is the amount which, with compound interest, will provide the sum required for redemption when the bonds fall due.)

Journal

1960 Dec. 31 Dr. Cash..$100,000
Cr. Sinking Fund Investments.....$100,000
Dr. Bonds.$100,000
Cr. Cash.....$100,000

The sinking fund reserve remains, however, and still represents profits which have been earned. The funds made available by these profits have been used to purchase investments which have ultimately been used to pay off outside liabilities. The use of profits to pay off liabilities increases the amount of the investment of the proprietors in the business, and this is recorded by transferring the sinking fund reserve to surplus.

Dr. Sinking Fund Reserve..$100,000
Cr. Surplus.....$100,000

This example ignores possible changes in the value of investments held for sinking fund pur-

poses. The danger of losses through fluctuations in outside investments is considerable, and is a danger both to the business, which may find that the sale of these investments does not provide sufficient cash to pay off the amount due on the bonds, and to the bondholders, whose security is thus reduced. This danger can be avoided in one of two ways. First, if the investments which are purchased for the sinking fund are themselves bonds which the business has issued, then fluctuations in the market value of the bonds held are of no importance because, at the date of repayment, the business will have bought up the whole of its bond issue. Market conditions year by year may be such that these bonds cannot be purchased in the market except at a price in excess of their nominal value, and this difficulty may be met by providing that the bonds shall be callable for redemption, at the option of the business, at a slight premium, the amount of which is gradually reduced year by year. The second method provides in the trust deed for the compulsory retirement of a certain number of bonds each year; the bonds being chosen by drawing lots, or (serial bonds) being designated when issued for redemption in a particular year. The annual charge for sinking fund reserve is made against surplus and an annual payment of cash of the same amount is made to purchase or redeem the bonds. (The

possibility of the purchase of bonds at less than their nominal value, or their redemption at a premium, is ignored in the following journal entry.)

Journal

1941			
Dec. 31	Dr. Profit and Loss	$5,000	
	Cr. Sinking Fund Reserve		$5,000
	Dr. Bonds	$5,000	
	Cr. Cash		$5,000

Questions to be answered

1. A business has a new building erected and plant installed, and makes payments in cash as follows:

Building Contractor	$12,000
Architect	600
Plant	36,000
Freight on Plant	800
Installation of Plant	2,800

Make journal entries to record these payments which are made at the completion of the work on January 31, 1942.

2. On December 31, 1942, the business mentioned in Question 1 closes its books for the year. Make journal entries to record depreciation of the buildings at 5% per annum and of the plant at 10% per annum.

3. Make journal entries to record the issue for cash of 2,000 bonds of $100 each at $103, and of 1,000 bonds of $100 each at $98.

CHAPTER V

THE development of limited companies has brought with it many new problems in accounting: the result chiefly of the increase in the size of units of business. This increase in size was itself the cause of the development of limited companies. The divorce between ownership and control in companies, the granting of credit on a large scale, and the public interest in giant corporations have added importance to accounting methods and results. The intricacies of accounting do not involve any fundamentally different methods from those already described, but a few of the special accounts found only in limited companies must be added to them.

SHARE CAPITAL OF LIMITED COMPANIES

The fact that ownership in companies is transferable has made convenient the division of capital into small units called shares, which until recently were usually of $100 each, this being called the nominal value. On the formation of a company the capital required may be obtained by issuing so many shares of $100 for cash.

Journal

1941 Jan. 1 Dr. Cash..$100,000
Cr. Share Capital. . . .$100,000
To record the issue of 1,000 shares of $100 each.

This is a convenient way of summarizing a number of individual transactions; in practice, each receipt of cash from a subscriber would be entered on the debit side of the cash book and posted from there to the credit of capital.

The amount credited to the capital account remains fixed; no change is made in it unless the amount of capital is increased by a new issue, or a reorganization of the capital structure takes place. Any change in the "real" investment or, in other words, of the proprietorship, is found in the surplus account, or, if a loss has been made, in the deficiency account.

Frequently on the formation of a company the existing assets of a business are purchased, and payment is made by issuing shares to the vendor. Such a transaction is the condensation of two transactions into one: the purchase of assets for cash and the issue of shares for the same amount of cash.

Journal

1941 Jan. 1 Dr. Land...$10,000
Cr. Share Capital. $10,000
To record the issue of 100 shares of $100 in exchange for land valued at $10,000.

If shares of different classes are issued, e.g. preference shares and common shares, a separate account is kept for each class. The charter of the company permits the issue of shares up to a certain maximum number of each class, and this authorized capital is usually stated on the balance sheet. The item on the credit side of the balance sheet may appear as follows:

Capital:

Authorized—	2,000 6% Preference Shares of $100	$200,000
	5,000 Common Shares of $100	500,000
		$700,000
Issued—	1,500 6% Preference Shares of $100	$150,000
	4,000 Common Shares of $100	400,000
		$550,000

The chief classes of shares can be described briefly. *Preference Shares* are shares entitled to the payment of a dividend of a certain percentage before any dividend is paid in a particular year on common shares. *Cumulative Preference Shares* are shares entitled to a preferential dividend for every year up to date before any dividend is paid on common shares. *Participating Preference Shares* are shares which are entitled to a preferential dividend and also to a participation in any amounts

paid out in dividends after a fixed payment has been made on common shares. *Common Shares* are shares which have no preference over any other class of shares, except that sometimes they are divided into *Class A* and *Class B*, the former having some form of advantage over the latter. If a company has only one class of shares the shares are usually called common shares. The exact rights of the various classes of shares are set out in the charter and by-laws of the company.

ISSUE OF SHARES AT A PREMIUM

If a company wishes to make a new issue of shares, the price at which they can be issued depends on the market price of shares of the same class. If the present market value of 6% Preference Shares in a company is $115, the company may be able to issue further shares which, after issue, will be identical with these, at, say, $110.

Journal

1941 Jan. 1	Dr. Cash	$110,000		
	Cr. 6% Preference Share Capital		$100,000	
	Premium on Shares		10,000	

The amount credited to capital is the nominal value; the premium above the nominal amount is credited to premium on shares or to capital surplus. If all new shares are offered to present share-

holders in proportion to their holdings, the spread between the market price and the issue price can be quite wide enough to ensure the successful disposal of the issue without injustice to the present shareholders.

To prevent the watering down of the proprietorship of present shareholders and to maintain a capital fund of easily determined amount (i.e., the nominal amount) for the protection of creditors, the issue of shares (other than by mining companies) at less than their nominal amount, or at a discount, has been commonly forbidden by company law, except under the most stringent regulations involving the approval of the shareholders, the creditors, and the court.

REDEMPTION OF SHARES

Under most Companies Acts, companies are prevented from purchasing their own shares in the market; some Acts, however, allow preference shares to be issued which can be redeemed by the company. In order to safeguard creditors against the loss through the use of the assets to repay capital to shareholders, a company is usually permitted to redeem shares only if it can show that it will still be able to meet its liabilities after the redemption has taken place.

Journal

1941 Dec. 31 Dr. Surplus..$10,000
Cr. Share Redemption Reserve..$10,000

This reserve may be built up year by year and a large-scale redemption takes place after a period, or the redemption may be effected each year.[1]

1941
Dec. 31 Dr. Preference Share
Capital.....$10,000
Cr. Cash.....$10,000

SHARES OF NO PAR VALUE

In recent years many Companies Acts have been amended so that companies may issue shares without nominal or par value. The long arguments on the merits of this need not be reproduced here, but the fact should perhaps be recorded that a change which was supposed to be beneficial to shareholders has, through loose legislation, resulted in endless malpractice at their expense.

The directors of a company are allowed to issue shares of no par value from time to time at whatever price they fix; this price should, in fairness to existing shareholders, be closely related to the market price at the time a new issue is made. The total amount of cash received (or the value of other assets received) should be credited to capital.

[1]See earlier, under *Depreciation* (p. 55) and *Redemption of Bonds*, (p. 72) for a discussion of the building up of funds within a business.

Journal

1941 Jan. 1	Dr. Cash	$53,000		
	Cr. Common Share Capital			$53,000
	To record the issue of 1,000 common shares of no par value at $53 each.			

The capital of a company may appear on its balance sheet as follows:

Capital:			
Authorized—	2,000 6% Preference Shares of $100	$200,000	
	5,000 Common Shares of No Par Value	——	
Issued—	1,500 6% Preference Shares of $100	$150,000	
	4,000 Common Shares of No Par Value	397,483	
			$547,483

Shares of no par value can be issued at a price above or below the original issue price, and that original price need not, of course, be a round figure. As the shares have no nominal value, the question of premium or discount on shares cannot arise.

Until recently company law prevented the payment of dividends except out of surplus; that is to say, the whole of the capital subscribed had to be maintained intact unless reduced by operation at a loss. The distinction between capital and surplus has been blurred by some Companies

Acts with the introduction of shares of no par value, although no reputable or valid argument in favour of this has been presented for examination. Some Companies Acts provide that an amount may be abstracted from funds received as capital and this amount may be credited to distributable surplus and used for payment of dividends, irrespective of the operation of the company at a profit or at a loss.

Journal

1941 Jan. 1	Dr. Cash		$53,000	
	Cr. Common Share Capital			$48,000
	Distributable Surplus			5,000

The proportion of the amount paid for shares issued which may be treated in this way is usually in the "discretion" of the directors, but some Companies Acts fix the maximum, and some require that the terms of issue shall give specific information on this point.

DIVIDENDS

A certain amount of confusion arises in understanding the accounting entries to record dividends unless the earlier work has been mastered. Dividends can be paid only out of surplus: that is to say, out of profits which have been earned, out of premium on the issue of shares with par value, or out of distributable surplus arising from an issue of no par shares. But the surplus account is only

an accounting figure, and gives no information as to the nature of the assets held against it. If a cash dividend is to be paid, cash must be available; so that accountants speak of paying dividends out of surplus, and also of paying dividends out of cash.

The decision to pay a dividend is usually one to be made by the directors, but the by-laws of the company may require confirmation of the decision by a meeting of shareholders.

Journal

1941 Dec. 31 Dr. Surplus..$12,000
Cr. Dividends Payable.$12,000
To record declaration of dividend on 6% Preference Shares of $200,000.

1942 Jan. 10 Dr. Dividends Payable...$12,000
Cr. Cash.....$12,000
To record cash payment of above dividend.

The payment of cash dividends prevents the expansion of the company's operations which might have taken place if the cash had been retained. Sometimes a company may find that it has a surplus large enough to justify the declaration of a dividend, but that it has no cash available for the purpose, an expansion of the business out of profits having already taken place. The directors may then declare what is called a share or stock dividend, and issue shares (of the authorized but

unissued capital) to the shareholders, in proportion to the number of shares each holds.

1941 Dec. 31 Dr. Surplus . . . $10,000
Cr. Dividends $10,000
Dr. Dividends . $10,000
Cr. Common Share Capital . . $10,000
To record a 10% share dividend on 1,000 Common Shares of $100 each.

The effect of this transaction is to leave the assets and liabilities exactly as they were, and to leave each shareholder relatively in the same position. Surplus to the amount of $10,000 has been "capitalized," and the total investment in the company is $10,000 greater than it would have been had a cash dividend been paid. To call this transaction the *payment* of a share *dividend* is misleading (for it is not, in fact, either a payment or a dividend), and may give a false impression of continuity in dividends which is intended to reflect favourably on the ability of the management.

RESERVES

The word reserve is unfortunately used in a number of meanings which have no connection with each other; and it has already been used above in two different senses. A reserve for bad debts is deducted from the gross total of accounts receivable on a balance sheet, and the difference is the estimated value of the asset; a reserve for

depreciation is used, in exactly the same way, to show the value of fixed assets. A sinking fund reserve is an amount transferred from the surplus or profit and loss account to show that this amount is to be retained within the business (i.e., that it is not available for dividends) for a particular purpose, such as the redemption of bonds. The accounting entries for these two different types of reserve have already been shown.

A general reserve is created by a charge to surplus.

Journal

1941 Dec. 31 Dr. Surplus..$10,000
Cr. General Reserve..$10,000

This entry indicates a decision of the management that $10,000 of the surplus is to be retained in the business for general purposes as a long-term policy, and that it is not to be taken into consideration in determining the amount of dividends to be paid. None the less it is, in fact, an undistributed profit, and the policy may be reversed at any time by reversing the journal entry.

An insurance reserve is a reserve created and maintained as an alternative to an insurance policy with an outside company. Instead of making premium payments and debiting them to profit and loss through the insurance account, the business makes an annual charge to profit and loss equivalent to the premium and credits this to

insurance reserve. If the business is large and its assets are distributed among different plants, it may be able to meet any insurable losses out of its general funds, which have been augmented by retention of the insurance reserve within the business; but if the assets are concentrated or the company is small, then an amount equal to the insurance reserve will be invested in liquid outside investments. Until the reserve has reached a certain size, the business should maintain outside insurance to protect it against sudden loss in excess of the reserve.

A pensions reserve is created to provide funds for the payment of pensions which may be part of the contract of employment, or an act of grace. An annual charge to profit and loss is made and credited to pensions reserve. The funds represented by this reserve may be invested within the business, but, if large in amount, or if the pensions are part of a contract of employment, the funds should be invested in outside liquid investments.

Four entirely different types of reserve have been described: (1) reserves used to arrive at the value of various assets; (2) reserves used to build up funds for repayment of bonds; (3) reserves used to retain profits for expansion of the business; (4) reserves used to provide against risks, or to meet obligations, which require an annual charge against profit and loss. The published balance

sheets of some companies collect two or more of these different reserves under one heading amongst the liabilities.

Reserves:		
Reserve for Bad Debts	$ 1,300	
Reserve for Depreciation of Fixed Assets	17,600	
Pensions Reserve	5,000	
Sinking Fund Reserve	10,000	
General Reserve	25,000	
		$58,900

The total of $58,900 is utterly devoid of meaning and the grouping of heterogeneous items under one heading is misleading. Further, the values put against accounts receivable and fixed assets on the asset side of the balance sheet are also incorrect, as they should be reduced by the reserve for bad debts and the reserve for depreciation.

In banks the word reserves is often used for the cash and central bank balances available for the immediate settlement of customers' claims; banks which have the privilege of note issue also have reserves against this liability, usually in the form of gold and government bonds. Both of these forms of reserve may be subject to regulation by law. Reserves in the sense of undistributed profits or general reserves, as described above, are also found in the accounts of banks. In the accounts of insurance companies the most im-

portant reserves are the amounts charged against profit and loss to represent the liability on policies, arrived at by actuarial calculations.

SECRET RESERVES

Yet another use of the word reserve must be recorded. When the figures on a balance sheet deliberately exaggerate the amount of the liabilities or understate the value of the assets, a secret reserve is created. The origin of secret reserves was probably the anxiety not to allow the balance sheet to show a better state of affairs than actually existed, thus taking to extremes the habit of choosing the less favourable of two estimates when an alternative presented itself. From being reasonably cautious the business man has made a fetish of caution. This is particularly true of financial institutions, such as banks, which require public confidence in their stability if they are to operate satisfactorily. These institutions make use of two types of secret reserve: those which are secret only as to their amount and those whose existence is secret. If a bank which is known to have a large investment in buildings includes them in its balance sheet at a nominal figure of $1, everyone knows that its resources are greater than the balance sheet shows. The cost of the buildings must have been written off against the profits at some time, and the true surplus is greater than

is shown in the books and on the balance sheet. But the second type of secret reserve is manipulated from year to year for the purpose of concealing fluctuations in profit in order to retain public confidence. Many banks, of course, go further than this and actually engage in fictitious transactions month by month for the purpose of "window dressing" their monthly statements.

Whether financial institutions are justified in publishing false statements to conceal fluctuations may be argued, perhaps, but the extension of this practice to industrial and commercial companies can have nothing but bad results; the practice is, however, widespread. The manipulation of secret reserves may sometimes deceive competitors; it must always deceive shareholders and the general public; and it destroys the validity of any work done by economists on the basis of balance sheet figures unless that work is concerned only with long-run trends. Secret reserves are a very powerful weapon in the hands of the management; they may easily be used to further personal interests against those of shareholders, and may thus interfere with the interplay of economic forces usually examined by economists. Admitting that some of the items in a balance sheet are estimates, that is no reason why figures which are known to be false should be used; admitting that some of the accounting conventions for the valuation of

assets are partly unsatisfactory, that is no reason why they should be publicly accepted by the business community but laid aside by the management, without notice, whenever this suits their purposes.

CONSOLIDATED ACCOUNTS

A company may invest funds outside its own operations for various purposes: to build up liquid resources for specific purposes, to earn interest on funds temporarily lying idle, or to obtain some measure of control over the operations of another company. The purpose of the investment determines to some extent the method of valuation of investments for balance sheet purposes.

If liquid resources are needed at some determined future date (e.g., for redemption of bonds), outside investment will usually be in government or other bonds. If the maturity of these bonds anticipates, or coincides approximately with the date at which the liquid funds will be required, fluctuations in market prices, resulting from changes in current interest rates, are irrelevant. If funds are temporarily invested outside the business, fluctuations in market price of the investments are obviously of considerable significance; and if a fall below cost occurs, then the present market price should be used on the balance sheet or a

very definite statement of the market price should be made on the balance sheet. If funds are invested in other companies as a long-term policy, then the investment may be considered as a fixed asset.

Many companies have been formed for the sole purpose of holding the shares of other companies and providing for some degree of integration between the subsidiary companies. Other companies are not pure holding companies but are both operating and holding companies. Groups of companies are drawn together under more or less closely unified management through an interchange of shares or through a holding company. A holding company may own the whole of the share capital of its subsidiaries, either directly or indirectly, or it may exercise full management control by ownership of considerably less than half the shares.

Although two companies may have separate corporate existence and legal individuality, if the one owns the shares of the other outright the separation of their operations is for many purposes artificial; this is particularly true when, as usually happens, the companies are engaged in similar or complementary operations (i.e., horizontal or vertical combinations).

A. Company, Ltd. Balance Sheet at December 31, 1941

Cash		$ 11,000
Accounts Receivable	$171,000	
less Reserve for Bad Debts	3,000	
		168,000
Inventory		274,000
Investment in B. Co. at Cost		250,000
Fixed Assets	$125,000	
less Reserve for Depreciation	38,000	
		87,000
		$790,000
Accounts Payable		$ 82,000
Capital:		
6,000 Shares of $100 each		600,000
Surplus		108,000
		$790,000

The investments held by the A. Company are so large in proportion to the other assets that it is improbable that they are merely the temporary employment of funds which would otherwise be idle. Suppose that they are a long-term investment in another company which has been organized specifically for carrying on the operations of what is in reality (but not at law) a branch of the A. Company. The above balance sheet is unsatisfactory in that the nature of the assets and liabilities of the subsidiary company is concealed.

B. Company, Ltd. Balance Sheet at December 31, 1941

Cash		$ 1,000
Accounts Receivable	$ 50,000	
less Reserve for Bad Debts	1,000	
		49,000
Inventory		198,000
Fixed Assets	$113,000	
less Reserve for Depreciation	9,000	
		104,000
Deficit		5,000
		$357,000
Accounts Payable		$ 7,000
6% Bonds due Dec. 31, 1942		150,000
Capital:		
2,000 Shares of $100 each		200,000
		$357,000

The original investment of the A. Company in the B. Company was the purchase of the whole of its 2,000 shares at $100 each, and $50,000 6% bonds: a total of $250,000.

To show the true position of the business as a whole, a consolidated balance sheet must be prepared. That is to say that for the item "Investments $250,000" in the A. Company balance sheet, the assets and liabilities of the B. Company must be substituted. As the B. Company has accumulated a deficit of $5,000, the original investment has suffered a loss in value of this amount, which must be deducted from the surplus of the A. Company.

A. Company, Ltd. Consolidated Balance Sheet at December 31, 1941

Cash		$ 12,000
Accounts Receivable	$221,000	
less Reserve for Bad Debts	4,000	
		217,000
Inventory		472,000
Fixed Assets	$238,000.00	
less Reserve for Depreciation	47,000.00	
		191,000
		$892,000
Accounts Payable		$ 89,000
6% Bonds of B. Co. due Dec. 31, 1942		100,000
Capital:		
6,000 Shares of $100 each		600,000
Surplus	$108,000.00	
less Deficit of B. Co	5,000.00	
		103,000
		$892,000

As the A. Company owns $50,000 of bonds in the B. Company, only the net figure of bonded debt to the outside world ($100,000) has been included in the balance sheet.

Certain other elementary complications may be mentioned. Suppose that sales of goods by the B. Company to the A. Company have taken place and that the accounts receivable of the B. Company include $4,000 in respect of these sales. This means that the accounts payable of the A.

Company must include $4,000 representing the debt to the B. Company. These two items cancel out, in preparing a consolidated balance sheet of the business as a whole. Suppose, further, that the inventory of the A. Company is valued at cost or market price, whichever is the lower, and that it includes goods purchased from the B. Company for $27,000. These goods are at present included in the above balance sheet at their cost to the A. Company (which is here assumed to be not greater than present market price), but this figure includes a profit to the B. Company of, say, $3,000. This profit has been earned by the B. Company as a legal entity, but for the purposes of a consolidated balance sheet the inventory must be valued at a figure not in excess of the cost to the business as a whole, that is at $24,000.

Making these adjustments the consolidated balance sheet should appear as follows:

A. Company, Ltd. Consolidated Balance Sheet at December 31, 1941

Cash		$ 12,000
Accounts Receivable	$217,000	
less Reserve for Bad Debts	4,000	
		213,000
Inventory		469,000
Fixed Assets	$238,000.00	
less Reserve for Depreciation	47,000.00	
		191,000
		$885,000

Accounts Payable	$ 85,000
6% Bonds of B. Co. due Dec. 31, 1942	100,000
Capital:	
6,000 Shares of $100	600,000
Surplus	100,000
	$885,000

The accounts receivable and accounts payable have been reduced by $4,000 intercompany debts, and the net surplus and inventory have been reduced by $3,000 on account of inventory revaluation.

Comparing this consolidated balance sheet with the original balance sheet of the A. Company, it will be seen that the investments have been removed and that adjustments of an equivalent net amount have been made in the assets and liabilities, and that the liabilities include debts to the outside world only. As the share capital of the B. Company is all owned by the A. Company, it does not appear in the consolidated balance sheet. The consolidated balance sheet discloses important facts which were concealed in the A. Company balance sheet: (1) that the business as a whole has to meet obligations to the public to the amount of $100,000 in a year's time, and (2) that the surplus of the business as a whole is $8,000 less than that originally shown.

The above example is extremely simple compared with many that are met in practice, but

serves to show the type of adjustments that should be looked for, and the reason why the balance sheet of a company as a legal entity may be unsatisfactory, although technically accurate.

If a group of companies is formed under one management, and the companies are in reality operating as a single business unit, then a consolidated balance sheet is desirable if it can be constructed; but inter-company affairs are sometimes so complicated that it is impossible to produce a satisfactory consolidated balance sheet. A brief example may indicate the difficulties.

Five companies, A, B, C, D, and E, operate as a group. A is a holding company but is also an operating company.

A owns shares as follows:

50% of the preference shares and 60% of the common shares of B,

None of the preference shares and 30% of the common shares of C,

10% of one class of preference shares, 20% of another class of preference shares, and 15% of the common shares of D,

75% of the preference shares and 40% of the common shares of E.

B owns shares as follows:

5% of the common shares of A,

20% of the common shares of C.

C owns shares as follow :

5% of the preference shares and 10% of the common shares of B,

40% of the common shares of D,
15% of the common shares of E,
and so on, each company having a proportion of each class of its shares in the hands of the public. The companies are constantly engaged in transaction with each other, and some have deficits and others surpluses.

Although efforts are made to produce a consolidated balance sheet for a group of this sort, no pretence of accuracy can be upheld, particularly because of the inability of accounting methods to attribute a correct proportion of the net assets or surplus of a company to various classes of shares when each class of shares is held partly by other companies in the group and partly by the outside world. The problem becomes fantastic and the consolidated balance sheet entirely unreal. The most satisfactory solution of this problem from the accounting point of view is the amalgamation of the group of companies into one company.

The profit and loss accounts of the group may well be kept separate, so as to show the result of the operations of each company, but the statement of surplus (see p. 107) of the holding company should show what dividends have been paid out of current earnings and surplus respectively.

CHAPTER VI

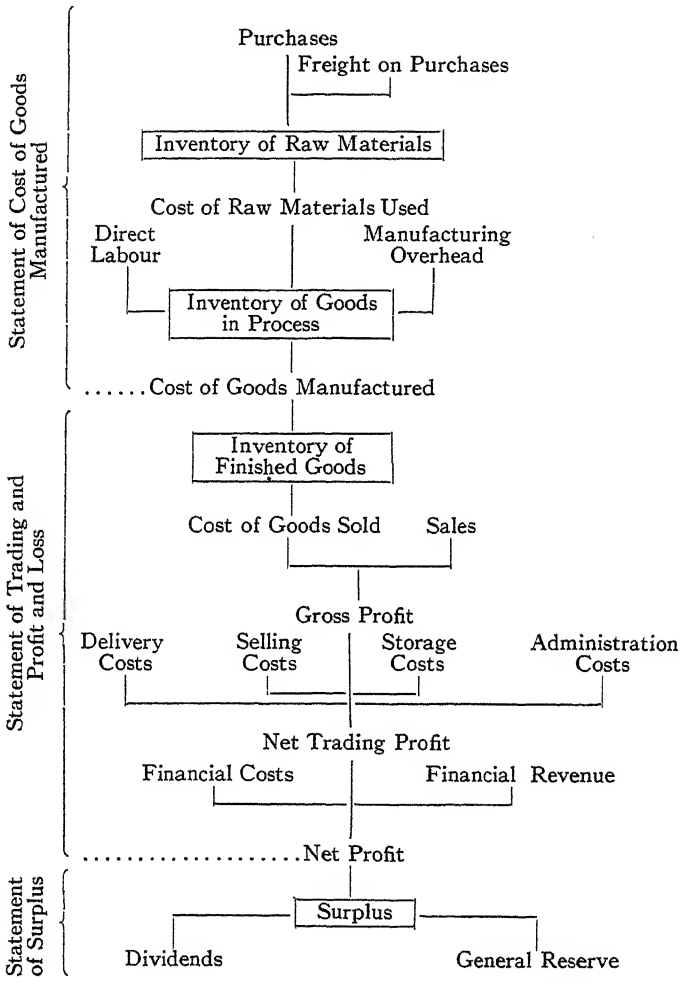
ONE of the chief purposes of keeping accounts is to aid the management in exercising control and in making decisions on policy. In the explanations and examples given in previous chapters all costs of goods and services used have been charged to profit and loss account, and net profit on the operations as a whole determined. A rearrangement of these charges to profit and loss account in the form of statements, designed to bring out clearly certain relations, facilitates the work of the management. In a manufacturing business these relations are conveniently shown by the preparation of a statement of cost of goods manufactured, which shows the relative importance of the various factors of production; a statement of trading and profit and loss, which shows the gross profit, the net profit, and the relative importance of the various selling, administration, and financial costs; and a statement of surplus.

STATEMENT OF COST OF GOODS MANUFACTURED

The manufacturing costs of a business are conveniently divided into direct or prime costs and overhead costs. Direct costs are those which can

be directly attributed to a specific output of goods and which roughly vary directly with the volume of that output. Overhead costs are those which can be attributed only indirectly to specific output and which are fixed, or remain fairly constant, irrespective of the volume of output. An exact division between direct and overhead costs cannot always be made and depends upon the particular manufacturing process. The costs of raw material used and of direct factory labour are obviously direct costs; but power may best be treated as a direct cost in some plants and as overhead in others. Indirect factory labour (supervision, cleaning, etc.); depreciation and repairs of plant; heat, light, and factory insurance, are overhead costs.

The following diagram shows how the various costs (direct, overhead, selling, administration, and financial) fit into the various statements.


Statement of Cost of Goods Manufactured
Purchases
Freight on Purchases
Inventory of Raw Materials
Cost of Raw Materials Used
Direct Labour
Manufacturing Overhead
Inventory of Goods in Process
.....Cost of Goods Manufactured
Statement of Trading and Profit and Loss
Inventory of Finished Goods
Cost of Goods Sold
Sales
Gross Profit
Delivery Costs
Selling Costs
Storage Costs
Administration Costs
Net Trading Profit
Financial Costs
Financial Revenue
.....Net Profit
Statement of Surplus
Surplus
Dividends
General Reserve

Statement of Cost of Goods Manufactured for the Year ending December 31, 1941

Raw Materials Inventory, Jan. 1				$ 62,000
Purchases of Raw Materials				397,000
Freight on Raw Materials				2,000
				$461,000
less Raw Materials Inventory, Dec. 31				67,000
Cost of Raw Materials Used				$394,000
			%	
Goods in Process Inventory, Jan. 1				$ 48,000
Cost of Raw Materials Used			56.5	394,000
Direct Labour			26.8	187,000
Manufacturing Overhead:—			16.7	116,000
%				
53.4	Indirect Labour	62,000		
7.8	Power	9,000		
10.3	Supplies	12,000		
5.2	Repairs	6,000		
2.6	Depreciation (Factory)	3,000		
8.6	Depreciation (Plant)	10,000		
9.5	Light and Heat	11,000		
.9	Insurance	1,000		
1.7	Taxes	2,000		
100.0			100.0	$745,000
less Goods in Process Inventory, Dec. 31				52,000
Cost of Goods Manufactured				$693,000

The percentage column in the centre of the account shows the relation between raw materials used, direct labour and manufacturing overhead, and the

total of these costs; the percentage column on the left hand side of the statement shows the proportion of each of the items of manufacturing overhead to their total. Light and heat, taxes, and insurance may be determined separately for the factory or they may be a proportion of the total costs apportioned on some fixed basis between factory and administrative and other buildings.

The use of the above statement, by means of comparison with those of previous periods, is obvious. A further and more effective check on the efficiency of the manufacturing process is possible if the product is completely standardized (e.g., a glass bottle of one size and quality), by preparing a statement of the actual quantities of materials, hours of labour, etc., used per unit of production. This avoids the difficulties arising in making comparisons when prices are changing, and such a statement will be a useful supplement to the above. If, however, the product is not a single and uniform one, such a statement cannot be prepared because no definite basis can be arrived at on which to attribute the quantities of the factors of production to the joint products.

The section entitled *Inventory* in Chapter IV might be re-read at this point, as the statement of cost of goods manufactured throws light on the valuation at cost of goods in process and finished goods.

STATEMENT OF TRADING AND PROFIT AND LOSS

The purpose of this statement is to show: first, the proportion of gross profit to sales; secondly, the relation between the selling and administration costs and sales; thirdly, the relation between each detail of these costs and the total of its class; fourthly, the net trading profit and how it is modified by items which are the result of financial policy and have no necessary relation to the manufacturing process or the trading transactions. In a non-manufacturing business, the statement will be identical with the illustration below except that purchases will take the place of cost of goods manufactured.

Statement of Trading and Profit and Loss for the Year ending December 31, 1941

Sales			$982,000
Finished Goods Inventory, Jan. 1	$ 41,000		
Cost of Goods Manufactured	693,000		
	$734,000		
less Finished Goods Inventory, Dec. 31	37,000		
Cost of Goods Sold			697,000
Gross Profit		29.00%	$285,000
less Warehouse Costs	$ 7,500	.76%	

%		
42.7	Salaries	$ 3,200
25.3	Depreciation	1,900
9.3	Heat and light	700

4.0	Insurance (Goods)	300			
5.3	Insurance (Warehouse)	400			
13.3	Taxes.....	1,000			
	Delivery Costs.....		3,900	.40%	
46.2	Salaries.....	$ 1,800			
20.5	Depreciation of Equipment..	800			
28.2	Supplies.....	1,100			
5.1	Insurance.....	200			
	Selling Costs.....		79,400	8.09%	
14.7	Salaries.....	$11,700			
40.8	Commissions ..	32,400			
19.9	Travelling.....	15,800			
24.6	Advertising....	19,500			
	Administration Costs		28,600	2.91%	
65.4	Salaries.....	$18,700			
3.1	Depreciation (Offices).....	900			
.7	Depreciation (Equipment)	200			
5.6	Light and Heat	1,600			
.7	Insurance.....	200			
1.0	Taxes.....	300			
13.3	Sundries.....	3,800			
10.1	Bad Debts.....	2,900			
					119,400
Net Trading Profit.....				16.86%	$165,600
				29%	

Net Trading Profit		$165,600
Discounts Received		7,800
Revenue from Investments		4,200
		$177,600
less Discounts Allowed	$ 8,200	
Bond Interest	12,000	
		20,200
Net Profit		$157,400

The percentage column in the centre shows each item as a percentage of sales; the left hand column shows the percentage of each item to the sub-total of its class.

STATEMENT OF SURPLUS

The statement of surplus shows how the surplus (unappropriated profits) brought forward from the previous financial period is increased by the net profit and decreased by appropriations. These appropriations are not, of course, costs of carrying on the business.

Statement of Surplus for the Year ending December 31, 1941

Balance of Surplus Account, Jan. 1		$ 72,900
Net Profit for the year		157,400
		$230,300
less Dividends on Preference Shares	$ 25,000	
Dividends on Common Shares	100,000	
Transfer to General Reserve	10,000	
		135,000
Balance of Surplus Account, Dec. 31		$ 95,300

A difference of opinion exists as to the position which should be taken by income tax, which has not been included in this example. On the one hand the argument is that, as income tax is a tax on income, it is an appropriation of income that can be made only after income is determined, and that it should appear in the statement of surplus. On the other hand, the argument is that, as the net income available for the proprietors can be determined only after provision has been made for income tax it should appear in the statement of profit and loss. The difference of opinion is not very important, but what is important is that the administration of income tax has had a considerable effect on accounting practice, and that accuracy is sometimes, if not frequently, sacrificed in an effort to reduce the tax paid over a period of years. In particular, the administration has tended to look with suspicion on new methods of inventory valuation, and businesses have tended to manipulate their accounts in order to show steady earnings in place of profitable and unprofitable years.

The profit and loss account used in earlier examples should be compared with the above statements. No new principles have been introduced, and if a trial balance and supplementary information were given in sufficient detail, a balance sheet, and manufacturing, trading, profit

and loss, and surplus statements could be prepared with no great difficulty.

COST ACCOUNTING

The chief use of cost accounting is as an implement of control in a manufacturing business. A form of control by the use of a manufacturing statement has already been sketched above; cost accounting is an elaboration of this form of control.

Suppose that, in the illustration above, the manufacturing statement was the record of the production of a completely standardized article; the cost per unit of output of the raw materials, labour, and overhead expenses could be ascertained. Suppose, further, that this information was available monthly (instead of annually as shown in the illustration) very soon after the end of each month; the information available to the management would obviously be of great use to them in making comparisons from month to month to check inefficiency and waste.

Cost accounting aims at supplying very quickly after the end of short financial periods information which is practically an analysis of the manufacturing statement. The extent to which the analysis is taken into detail depends upon the time required, the cost involved, and the use that can be made of the detail.

Few businesses produce only one standardized

product; in order to obtain the manufacturing cost per unit of each of several products, the costs of the factors of production must be divided up among the various processes, each of which produces a standardized product. The raw material is issued upon requisitions made on the stores by those in charge of the process concerned, and is charged to that process. Employees' work cards are made out so that each process can be charged with the labour employed on it. The overhead costs are attributed to the various processes on the basis of careful study of past experience, but result in what is, at best, an estimate. As a result of this "process costing" the management has presented to it regularly a statement showing, for each process, the cost per unit of output of every type of raw material used, of labour employed, and of each of the overhead costs.

A very similar method is used in "job costing" in a business whose output is not in the form of large numbers of standardized products but consists of separate jobs, which may be repeated from time to time in fulfilment of orders, or which may have elements of similarity (such as common processes up to a certain stage). The costs of the factors of production are charged to the job, instead of being charged to a process, and the statement prepared will give the costs of each factor of production for the job.

The cost accounting statements in total for any period should agree with the manufacturing statement of which they are an analysis; in practice exact agreement is not usually attained, however, because the cost of analysis in sufficient detail would be excessive.

In certain types of construction work and in businesses which have a virtual monopoly of their products, the cost accounting records may be the basis of the price charged to the customer, amounts being included to cover selling and administrative costs based on the arbitrary division of these costs (appearing in the trading statement) over total production. In a business which is called upon to make tenders for large jobs, past cost accounting records may be adjusted by changes in prices, and used as a basis for the tenders, particularly if the business is ignorant of the tenders likely to be submitted by competitors.

The costs determined by the methods outlined above are average costs for production that has actually taken place. If all these costs for one business are added together, the total costs will be obtained, and to operate at a profit the business must do better than cover these costs by its selling prices. To what extent can these costs be used in fixing the sale price of the goods produced? In the early days of cost accounting some businesses were encouraged to think that these costs,

plus a fair profit, could be used universally to fix selling prices, but many of them have now realized that this view is fallacious. It is fallacious for three reasons: first, because conditions of production, and therefore costs of production, vary enormously from one business to another, particularly when the variety of articles produced is different; secondly, because businesses are not static but can increase or decrease their output of each of their products, and each change in volume of production changes the costs; and thirdly, because the sale price of a product depends not only on the producer but also on the purchaser, and business at a lower price is usually better than no business at all. Although cost accounting has proved very useful as a method of internal control it has not proved very useful in determining either the most profitable volume of production or the sales policy.

The economist has developed the concepts of marginal cost and marginal revenue. If, at different levels of production, the marginal cost (that is, the additional actual cost of increasing production by one unit) and the marginal revenue (that is, the additional revenue derived from selling that one unit) can be determined, the business manager has a sound basis for his policy. In order to obtain the greatest possible profit, the production must be such that the marginal cost and marginal

revenue are equal. At any level of production, if the marginal cost is the larger, increased profit will result from a reduction in production; if the marginal revenue is the larger, increased profit will result from an increase in production. But cost accounting records do not supply this information, and even if it were available it would have to fight against the disinclination of many business men to take any action which decreases the selling price per unit of any product.

The use of uniform cost accounting methods within an industry is obviously desirable (as is any standardization of accounting practice) because it makes possible accurate comparisons between the various units in the industry. Such uniformity has, however, been taken beyond the *methods* of cost accounting and has been applied to actual items of costs (by agreement negotiated through trade associations) by all the units in some industries, for the purpose of maintaining prices and avoiding "wasteful" competition. In the absence of competition a restriction of output and a maintenance of prices may result in greater profits than would result from the equating of marginal costs and marginal revenues under free competition.

Many business men have refused to accept business at a lower price, which would result in an increase in profits for the short run, on the grounds that a general lowering of price might occur, which

would result in a decrease in profits in the long run. The use of cost accounting figures giving total costs in place of the use of marginal cost figures has undoubtedly accentuated this.

EXAMINATION OF PUBLISHED ACCOUNTS

Too much emphasis cannot be placed on the fact that the published accounts of a company at the end of a financial year are totally inadequate information on which to base any opinion. In the first place, the accounts of many companies are inaccurate; and in the second place, the trend of operations is of far greater importance than the position of the company at a particular date. In spite of the changes that have taken place in the views of accountants, pride of place is still given to the balance sheet, and the information given in the profit and loss or income and expenditure account is often scanty.

For a proper examination of the published accounts of a company, a comparative profit and loss account should be drawn up for a period covering, if possible, a complete trade cycle. Full details, such as are found in a manufacturing, trading and profit and loss statement, cannot be obtained, but the figures provided should be analysed and the best possible form of statement devised. The figures provided will usually show

at least the net operating profit, depreciation charged, the management salaries, directors' fees, income tax, and income from outside investments. Any items which properly belong to the surplus account should be put there. Inaccuracies in the accounts will probably be concealed in the charges for depreciation, which can be adjusted approximately by replacing the figures given by a fixed percentage of the depreciating assets included in the balance sheet, or in the inventory valuation, which cannot usually be adjusted because of complete absence of information.

A comparative balance sheet should also be drawn up, making whatever adjustments are required. The depreciation adjustments already referred to should be introduced, the reserves should be segregated if they are collected illogically under one heading, and the assets and liabilities should be arranged properly with sub-totals of each class, i.e., the current assets in order of liquidity, the fixed assets, the intangible assets; the current liabilities, the deferred liabilities, the capital and reserves.

A further statement, the use of which is being more and more appreciated, is one showing the sources and application of funds year by year. This statement shows how working capital (the excess of current assets over current liabilities) has become available and how it has been used.

Source and Application of Funds for Year ending ....

Operating Income...	Dividends paid.....
Other Income.....	Fixed assets acquired
Depreciation.....	Securities redeemed .
Securities issued....	Increase in Working Capital.....

As explained earlier, the profit of a business originates in the excess of the selling price over the cost, and as sales result in the acquisition of accounts receivable or cash, the making of a profit on a transaction must result in an increase of working capital. Other income, such as dividends on investments, comes in cash. The charge for depreciation is a book entry indicating that part of the service of the fixed assets has been used up in production; if the goods produced are sold at a profit, the amount set aside for depreciation is represented by part of the funds coming in from sales in the form of an increase in working capital.[1] The issue of bonds or shares brings in cash, with a corresponding increase in fixed liabilities or capital, and thus results in an increase in working capital. The payment of dividends, the acquisition of fixed assets, and the redemption of securities obviously result in a reduction of cash without a correspond-

[1]See earlier under *Accounting for Depreciation* (p. 50), and *Further Discussion of Depreciation* (p. 53).

ing reduction in current liabilities, and therefore a decrease of working capital.

Further analysis of accounts can usually be made only after access to the books of the company and discussion with the management. A comparative statement may then be made showing certain ratios whose change from year to year requires explanation and examination. The chief of these ratios are:

Current assets to current liabilities;
Sales to inventory, or rate of turnover;
Sales to accounts receivable;
Operating expenses to sales;
Fixed charges to net operating profit.

The average figures for these and other ratios are available in some industries, and comparison is then possible not only from year to year within the business but also with the average of the industry. The explanation of changes and differences is what is important, and this is obviously not available to the general public.

EXAMPLES FROM PUBLISHED ACCOUNTS

A few examples of information contained in published accounts are given, with comments; comparative statements for a period of several years require too much space to be included, but some of the questions raised above are illustrated. The

auditors' reports have been omitted from the accounts reproduced here. Figures are given to the nearest dollar; the cents included in most published accounts are totally unnecessary. The choice of companies is entirely fortuitous and many others would have provided equally good examples.

Company No. 1

CONSOLIDATED BALANCE SHEET, NOVEMBER 30, 1941

ASSETS

CURRENT ASSETS:		
Inventories of Materials and Supplies as determined and certified by the Management and valued at or below cost, which is below market	$ 1,839,954	
Accounts Receivable (less Bad Debts Reserve)—		
Customers' Accounts	$1,098,188	
Other Accounts	47,077	
	1,145,265	
Government Bonds (Market Value $931,343)	901,704	
Cash	2,299,701	
		$ 6,186,624
INVESTMENT IN COMPANY'S OWN BONDS, AT PAR		93,500
UNEXPIRED INSURANCE, PREPAID TAXES AND OTHER PREPAID EXPENSES		138,738
BOND REFUNDING EXPENSE (less amounts written off)		1,100,000
PROPERTY ACCOUNT:		
Land, Buildings, Plant and Equipment, etc. (as appraised by Messrs. ——— on the basis of commercial value at September 30, 1927, $38,267,500) and the Company Building at cost; with subsequent net additions at cost; less Depreciation Reserves of $19,809,702		36,980,782
		$44,499,644

Company No. 1 (continued)

LIABILITIES

CURRENT LIABILITIES:		
Accounts Payable	$ 441,526	
Bond Interest Accrued	37,187	
Preference Dividend declared, payable December 20, 1941	552,390	
Provision for Dominion, Provincial and Other Taxes (after prepayment of approximately $1,000,000 to the Dominion Government)	1,086,936	
		$ 2,118,039
FIRST MORTGAGE BONDS:		
Authorized	$20,000,000	
Issued Series "A"	$16,500,000	
Outstanding—		
4 % Sinking Fund Bonds due 1951		10,500,000
MORTGAGE ON COMPANY BUILDING:		
Repayable in semi-annual instalments and balance due in 1948		545,000
RESERVES:		
Fire Insurance	$ 750,000	
Extraordinary Repairs and Renewals	350,000	
Industrial Accidents	57,500	
Contingent Reserve	400,000	
		1,557,500
PREFERENCE SHARES REDEMPTION RESERVE		55,900

Company No. 1 (continued)

PREFERENCE SHARES — 6½% SINKING FUND CUMULATIVE SHARES OF $100 EACH, REDEEMABLE ON SIXTY DAYS' NOTICE:			
Authorized (of which $21,000,000 has been issued)		$25,000,000	
Outstanding			20,086,900
NOTE: Dividends are in arrears $34.25 per share.			
COMMON SHARES:			
600,000 Shares of No Par Value out of an authorized issue of 750,000 Shares			6,403,905
EARNED SURPLUS:			
Profit and Loss Account for the year ending November 30, 1941—			
Profit from Operations after providing $1,750,000 for Depreciation and after deducting Executive Remuneration $89,458, Directors' Fees $10,720, and Legal Expenses $2,540	$3,974,630		
Income from Investments	32,012		
		$ 4,006,642	
DEDUCT: Bond Interest (net)	$ 442,283		
Mortgage Interest	23,300		
Proportion of Bond Refunding Expense	110,000		
Provision for Income and Profits Taxes	1,800,000		
		2,375,583	
		$ 1,631,059	
Earned Surplus November 30, 1940		2,906,989	
		$ 4,538,048	
DEDUCT: Dividends on Preference Shares		1,305,648	
			3,232,400
			$44,499,644

Company No. 1 (continued)

The statement that inventories are valued "at or below cost, which is below market" places a limit on the valuation but gives no information of use in making a comparison from year to year. Bond Refunding Expense is an item which should be dealt with in the same way as discount on bonds (see Chapter IV). Property account might well be sub-divided so that the depreciation charged can be related to the assets subject to depreciation.

The details of the profit and loss and surplus accounts required by law to be shown are incorporated under the heading Earned Surplus on the balance sheet.

The charges made for depreciation from year to year have varied considerably without any changes in fixed assets sufficient to justify the variations, as is shown below.

	Net Value of Properties	*Depreciation*	*Profit*
1931.....	$39,600,000	$2,071,101	$1,553,191
1932.....	39,500,000	555,649	784,931
1933.....	39,300,000	250,000	76,913
1934.....	38,400,000	1,000,000	55,164
1935.....	40,800,000	1,000,000	37,694
1936.....	42,000,000	1,027,829	663,241
1937.....	41,000,000	1,250,000	1,461,054
1938.....	40,000,000	1,250,000	1,124,512
1939.....	38,900,000	1,250,000	1,475,647
1940.....	38,000,000	1,250,000	1,332,220
1941.....	37,000,000	1,750,000	1,631,059

The reports of the directors contained the following remarks:

1932—"Your plants operated during the year at less than 30 per cent of their capacity. They have been well maintained and are in good condition."

1933—"Unfortunately, the earnings for the year over and above bond interest were not sufficient to provide for the normal amount of depreciation which should be written off annually; therefore, only a small proportion of the necessary depreciation has been written off, namely $250,000."

For a number of years a charge of about $150,000 was made against operations to create a fire insurance reserve. The amount was reduced to $120,000 in 1932 when the total reserve reached $750,000; no charge was shown after that date. No information is given to show whether the company reverted to outside insurance; if not, the comparison of profits is further confused to this extent.

Company No. 2

CONSOLIDATED BALANCE SHEET AS AT JANUARY 8, 1941

ASSETS

CURRENT ASSETS:		
Inventories of merchandise on hand valued at approximate cost in accordance with the Companies' usual practice, as determined and certified to by responsible officials of the Companies	$8,439,483	
Trade accounts receivable (after making provision for bad and doubtful accounts)	8,675,388	
Payments in advance of receipt of materials and goods in transit	483,226	
Dominion of Canada bonds (market value $11,395)	9,701	
Cash on hand	129,323	
		$17,737,121
EMPLOYEES' STOCK PURCHASE PLAN		197,319
PREPAID CHARGES ON ACCOUNT OF FUTURE BUSINESS:		
Proportion of catalogue expenditures, unexpired insurance premiums, departmental improvements and other expenses paid in advance		1,140,516
UNDERWRITING AND REFUNDING EXPENSE AND PREMIUM ON SECURITIES RETIRED, LESS AMOUNTS WRITTEN OFF		1,833,964
CAPITAL ASSETS:		
Land, buildings and equipment at depreciated reproductive values as reported by ——— Company Limited on June 22, 1929, plus subsequent additions at cost		27,316,635
		$48,225,555

Company No. 2 (continued)

LIABILITIES

CURRENT LIABILITIES:		
Bank Advances	$ 1,235,837	
Accounts Payable	5,802,431	
Accrued Interest, Wages, Rent, etc.	607,088	
Accrued Taxes	1,071,227	
Contribution Payable to Employees' Savings and Profit Sharing Fund	34,597	
Contribution Payable to Pensions Trust	47,000	
Accrued Bond Interest	57,202	
Accrued Dividends	2,388	
		$ 8,857,770
SHARES OF SUBSIDIARY COMPANY:		
Six per cent Cumulative Preference Shares outstanding	$ 3,350,000	
LESS—Acquired by the Company	3,120,100	
		229,900
FIRST MORTGAGE AND COLLATERAL TRUST BONDS:		
Series "A"		
3½% Serial Bonds ($350,000 maturing annually December 1, 1941-44)	$ 1,400,000	
4¼% Bonds (maturing December 1, 1951)	11,409,100	
		12,809,100
RESERVE FOR DEPRECIATION OF BUILDINGS AND EQUIPMENT		7,400,269
RESERVE AGAINST FUTURE DEPRECIATION IN INVENTORY VALUES		400,000
CAPITAL AND SURPLUS:		
112,500 Six and one-half per cent Cumulative Redeemable Preference Shares fully paid. NOTE—Arrears of dividends on these shares accumulated to November 1, 1940, amount to $2,545,312.50, equivalent to $22.62½ per share	$11,250,000	
120,000 Class "A" Shares of no par value fully paid and 120,000 Class "B" Shares of no par value fully paid	5,061,314	
Earned Surplus	2,217,202	
		18,528,516
		$48,225,555

Company No. 2 (continued)

CONSOLIDATED STATEMENT OF PROFIT AND LOSS AND SURPLUS

For the Fiscal Year Ending January 8, 1941

COMBINED PROFIT FROM OPERATIONS:			
After deducting all selling and general expenses (except those deducted below) including remuneration amounting in the aggregate to $320,028 for fees of solicitors and counsel and salaries of executive officers and salaried directors, and after providing for bad debts but before charging depreciation of buildings and equipment			$ 3,932,813
Income from investments			1,319
			$ 3,934,132
DEDUCT:			
Dividends on 6% Cumulative Preference Shares of the Subsidiary Company	$201,000		
LESS—Received by the Company	187,109		
		$ 13,891	
Directors' remuneration other than salaries		12,370	
Provision for contribution to Employees' Savings and Profit Sharing Fund		34,597	
Provision for pensions		47,000	
Proportion of underwriting and refunding expense and of premium on securities retired, written off		172,671	
Provision for depreciation of buildings and equipment		944,095	
Provision against future depreciation in inventory values		400,000	
Provision for income and excess profits taxes		831,000	
			2,455,624
			$ 1,478,508

Company No. 2 (continued)

DEDUCT:		
Interest on bonds		550,978
Balance of Profit for the fiscal year		$ 927,530
Balance of Earned Surplus brought forward from last fiscal year		2,133,422
		$ 3,060,952
DEDUCT:		
Dividends of $7.50 per share paid on 6½% Cumulative Redeemable Preference Shares		843,750
Balance of Earned Surplus as at January 8, 1941		$ 2,217,202

No indication is given of the meaning of the asset: Employees' Stock Purchase Plan $197,319. Underwriting and Refunding Expense and Premium on Securities Retired might well be split into three items. It presumably refers to the original issue of bonds and shares; the later refunding of bonds; and the redemption of bonds or shares at a premium.

Land, Buildings, and Equipment might be sub-divided so that the Reserve for Depreciation, which should be deducted from this item and not shown as a liability, could be related to the assets concerned. The amounts charged for depreciation have varied from year to year rather more than has been justified by changes in the value of fixed assets.

The Reserve against Future Depreciation in Inventory Values is an item which cannot have been arrived at as the result of any estimate, for no valid basis exists for the making of an estimate. It represents, in fact, profits retained within the business as part of the policy of the management. This amount is charged against the profits before arriving at the Balance of Profit for the fiscal year, but has no real reference to the operations of the year. It is presumably the result of a provision in the regulations of the Excess Profits Tax.

Company No. 3

CONSOLIDATED BALANCE SHEET AT 30th SEPTEMBER, 1940

ASSETS

FIXED:		
Real Estate, Buildings and Equipment at 1st April, 1913, at depreciated valuations as per appraisal of the ——— Co., Ltd., with Net Additions to date at Cost	$ 6,943,995	
Patent Rights, Trade Marks and Goodwill, less written off to date	2,536,920	
		$ 9,480,915
CURRENT:		
Inventories, certified as to quantities and condition by responsible officials and valued at the lower of Cost or Market, less Reserve	$ 1,508,537	
Accounts Receivable, less Reserve	1,107,118	
Provincial Government Bonds (Market value at 30th September, 1940, $144,000)	137,384	
Cash in Banks and on Hand	661,709	
		3,414,748
SUNDRY MORTGAGE AND INVESTMENTS		10,001
DEFERRED CHARGES		90,237
		$12,995,901

Company No. 3 (continued)

CAPITAL AND LIABILITIES

	Authorized	Issued and Fully Paid
CAPITAL:		
Seven Per Cent Cumulative Preferred Shares of $100 each	$ 3,000,000	$ 2,600,000
Common Shares of $100 each	5,000,000	4,250,000
	$ 8,000,000	$ 6,850,000
CURRENT:		
Accounts Payable	$ 268,417	
Dominion, Provincial and Other Taxes	380,862	
Preferred Stock Dividend—payable 1st October, 1940	45,500	
Common Stock Dividend—payable 1st October, 1940	53,125	
Payroll and Other Charges Accrued	299,825	
		1,047,729
DEPRECIATION RESERVE		3,583,043
EARNED SURPLUS		1,515,129
		$12,995,901

Company No. 3 (continued)

CONSOLIDATED INCOME AND EXPENDITURE ACCOUNT

For the Year Ended 30th September, 1940

*Net Operating Profit for the year ended 30th September, 1940, before taking into account the items shown below		$ 985,537
ADD: Income from Investments		10,985
		$ 996,522
DEDUCT: Provision for Income and Excess Profits Taxes	$ 371,594	
Directors' Fees	11,760	
Executive Salaries	43,541	
Legal Expenses	1,598	
		428,493
Net Profit for year ended 30th September, 1940		$ 568,029

*After charging $194,070 Depreciation and $7,500 Amortization of Patent Rights.

Company No. 3 (continued)

CONSOLIDATED EARNED SURPLUS ACCOUNT

Earned Surplus Balance at 30th September, 1939			$ 1,571,915
ADD: Net Profit for year ended 30th September, 1940, as above			568,029
			$ 2,139,944
DEDUCT: Preferred Stock Dividend	$182,000		
Common Stock Dividend	212,500		
		$ 394,500	
Applied in writing down Fixed Assets		230,315	
			624,815
Earned Surplus Balance at 30th September, 1940			$ 1,515,129

The assets and liabilities are not arranged in the order fixed by recognized practice. Real Estate, Buildings, and Equipment might well be sub-divided so that the charge for depreciation could be related to the assets subject to depreciation. No indication is given of the amount of the reserve deducted from the Inventories, of how the reserve is arrived at, or of whether the method is constant; the value placed against this item is almost meaningless without this information. The total of the reserve for bad debts and the amount charged this year are not given.

The depreciation reserve is not deducted from the assets to which it refers but is shown amongst the liabilities. The charge against surplus of $230,315, to write down the value of fixed assets, is not explained; the company has made good profits and has charged approximately the same amount for depreciation for a number of years. This charge of $230,315 reduces the amount of surplus which will be shown in future years and has left funds to this amount in the business which, presumably, might have been paid out in dividends; outside investments already amount to almost $150,000.

The accounts for 1941 show a charge for depreciation of $270,191 against $194,070 for 1940.

Company No.

CONSOLIDATED BALANCE SHEET, DECEMBER 31st, 1940

ASSETS

CURRENT ASSETS:		
Cash on Hand and in Banks	$ 800,830	
Accounts Receivable	42,802	
Inventories, at the lower of Cost or Market prices as approved by the managements	384,272	
Dominion of Canada Bonds, at cost (Market value, $430,931)	435,581	
Life Insurance Policies, Cash Surrender Value	192,112	
		$1,855,597
INVESTMENTS:		
Mortgages, Loans and Other Investments, at cost, including investments in ——— Companies.	$1,527,605	
Shares in, and Loans to, other subsidiary Companies	206,972	
		1,734,577
PREFERRED SHARES OF THE COMPANY, purchased for redemption		3,406
DEFERRED AND PREPAID CHARGES		43,121
FIXED ASSETS:		
Lands, Buildings, Plants, and Equipment, at the depreciated replacement valuation of the ——— Company at July 31st, 1928, with additions since that date at cost		3,531,225
		$7,167,926

Company No. 4 (continued)

LIABILITIES

CURRENT LIABILITIES:		
Accounts Payable	$ 46,596	
Income and Other Taxes	560,001	
		$ 606,597
SECURED LOAN:		
Bank of Montreal, San Francisco		343,508
DEFERRED LIABILITY		43,249
RESERVES:		
For Premium on Preferred Shares	$ 31,124	
For Contingent Losses on Investments	345,238	
For Depreciation of Fixed Assets	1,642,872	
For Federal and Provincial Taxes	35,900	
		2,055,134
CAPITAL:		
Preferred Shares—7% Cumulative Redeemable Preferred Shares	713,900	
Common Shares—238,000 Common Shares of no par value	2,145,293	
		2,859,193
EARNED SURPLUS		1,260,245
		$7,167,926

Contingent Liabilities, $45,548.

Company No. 4 (continued)

CONSOLIDATED PROFIT AND LOSS ACCOUNT

For the Year Ending December 31st, 1940

NET OPERATING PROFITS, BEFORE CHARGING DEPRECIATION		$1,107,678
(A total of $51,803, which includes salaries paid to factory managers, was paid as salaries and remuneration to the executive officers and legal advisors of the Company.)		
REVENUE FROM INVESTMENTS		113,092
OTHER REVENUE		22,147
		1,242,917
LESS:		
Director's Fees	$ 6,500	
Depreciation	158,327	
Federal and Provincial Income Taxes	294,519	
Excess Profits Taxes	241,511	
		700,857
NET PROFITS FOR THE YEAR, carried to Earned Surplus Account		$ 542,060

Company No. 4 (continued)

CONSOLIDATED EARNED SURPLUS ACCOUNT

December 31st, 1940

BALANCE AT JANUARY 1ST, 1940		$1,090,740
NET PROFITS FOR THE YEAR FROM PROFIT AND LOSS ACCOUNT		542,060
		1,632,800
LESS: Four quarterly dividends, each of 1¾ per cent., on the Cumulative Preferred Shares	$ 51,255	
Three dividends of 25 cents per share, and one dividend of 60 cents per share on the issued Common Shares of no par value	321,300	
		372,555
BALANCE, carried to Balance Sheet		$1,260,245

Mortgages, Loans, and other Investments at cost, amounting to over one and a half million dollars, might well be sub-divided and the market price of the investments stated if they consist of securities quoted on the stock exchange. Lands, Buildings, Plants, and Equipment might also be sub-divided so that the relation of the charge for depreciation to the various fixed assets could be examined. The Reserve for Depreciation of Fixed Assets should be deducted from this item.

Under the heading of Reserves appear four items which are utterly different but which are totalled in one figure. Premium on Preferred Shares is a capital surplus showing an increase in proprietorship, and should be listed under Capital. The contingent losses on Investments is very large and reinforces the suggestion that Mortgages, Loans, and Other Investments should be shown separated among the assets, with this item as a deduction from the asset. The Depreciation of Fixed Assets should be deducted from the Fixed Assets. The reserve for Federal and Provincial Taxes might properly be included under Current Liabilities unless the liability is very uncertain. The nature of the Contingent Liabilities should be stated.

INDEX